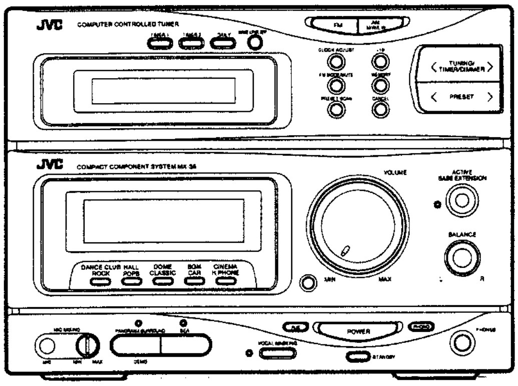
JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

CA-MXS6BK

(Unit No. RX-MXS6BK)



Note 1. This manual is for one part of the titled model consisting of the plural units as detailed.

Unit No. Consisted	*Part of Model*	*Manual No.*
RX-MXS6BK	*TUNER-AMPLIFIER*	*20415*
XT-MXS6BK	*CD-DECK*	*20416*

2. RX-MXS6BK is needed for the power supply when servicing the unit not provided with the power (mains) cord.

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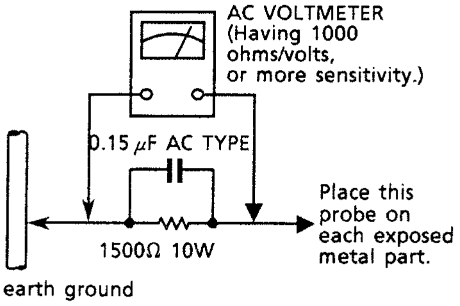
No. 20415
Mar. 1993

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, contorl shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Laying Out the System
See page 6 for details.

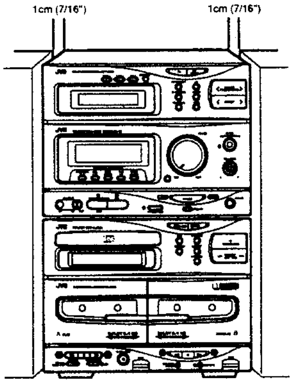
Aufstellen des Systems
Genaueres siehe Seite 6.

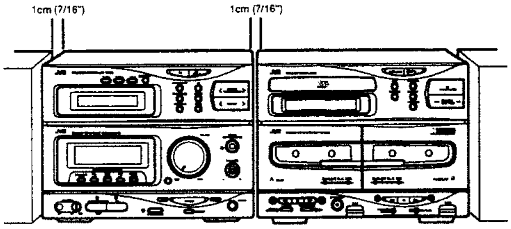
Comment installer le système
Voir page 6 pour les détails.

Opstellen van de installatie
Zie blz. 6 voor meer details.

Manera de instalar el sistema
Con respecto a los detalles, consulte la página 6.

Collocazione del sistema
Vedere pagina 6 per dettagli.


1cm (7/16")
1cm (7/16")


1cm (7/16")
1cm (7/16")

Control Panel and Remote—Illustrations
Bedienfeld und Fernbedienung—Abbildungen
Panneau de commandes et télécommande—Illustrations
Bedieningspaneel en afstandsbediening —Afbeeldingen
Ilustraciones del panel de control y del controlador remoto
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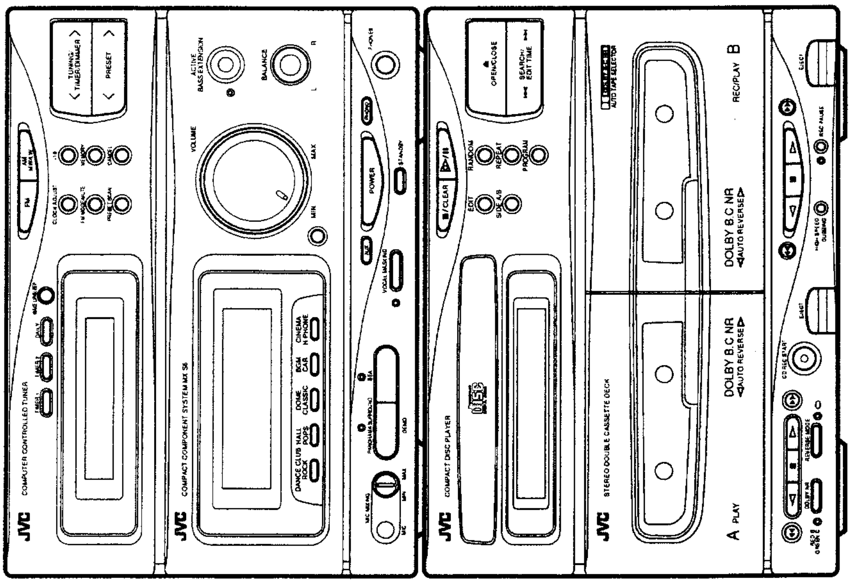
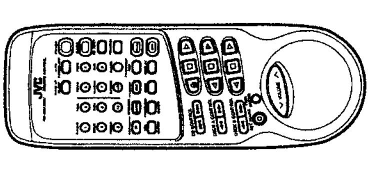

JVC
COMPUTER CONTROLLED TUNER
COMPACT COMPONENT SYSTEM MX-S6
VOLUME
BALANCE
POWER
COMPACT DISC PLAYER
STEREO DOUBLE CASSETTE DECK
DOLBY B C NR
AUTO REVERSE
REC/PLAY B
A PLAY



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Features

Here are some of the things that make your CA-MXS6BK powerful and easy to use.

Great Sound

- ❑ To get such **great sound** from such a compact package the CA-MXS6BK has pre-programmed sound effects like **DANCE CLUB, HALL, DOME, BGM, CINEMA, ROCK, POPS, CLASSIC, CAR,** and **H.PHONE** so you don't have to be a sound engineer to get great effects. **ACTIVE BASS EXTENSION** automatically works to maintain the richness and fullness of the sound when the volume level is getting lower.

Easy Operation

COMPU PLAY

- ❑ The controls and operations have been redesigned to make them very easy to use so you can spend your time listening to music.
  - With the One Touch Operation feature of JVC's new **COMPUPLAY** you can turn on the CA-MXS6BK and start the radio, the tape deck, or the CD player with a single touch.
  - Five timers, **TIMER1, TIMER2, DAILY, WAKE UP TIMER,** and **SLEEP TIMER** are extremely easy to set so you can really use them.
  - The **Display area** is large and clear. It's organized so you can tell at a glance what's happening because functions light up as you use them, and blink to tell you they are ready.
  - **Auto Edit** figures out how to arrange CD tracks on a tape. When you are recording a tape from a CD, the selections aren't cut off if the tape ends before the selection does.
  - **Programmed Edit** allows you to arrange CD tracks on a tape in your desired order.

IMPORTANT CAUTIONS

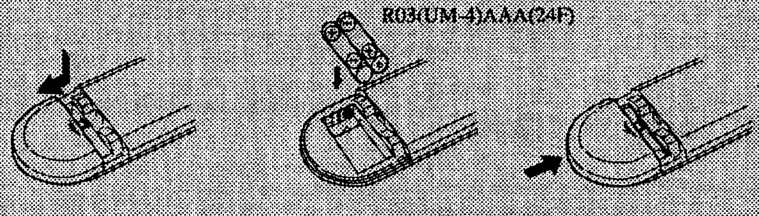
1. **Installation of the Unit**
- Select a place which is level, dry and neither too hot nor too cold (between 5°C and 35°C).
- Leave sufficient distance between the Unit and your TV.
- Keep the speakers away from TV to avoid interferencing with TV.
- Do not use the Unit in a place subject to vibrations.

2. **Power cord**
- Do not handle the power cord with wet hands!
- The small amount of the power (13 watts) is always consumed as long as the power cord is connected to the wall outlet.
- When unplugging from the wall outlet, always pull the plug, not the power cord.

3. **Malfunctions, etc.**
- There are no user serviceable parts inside. If anything goes wrong, unplug the power cord and consult your dealer.
- Do not insert any metallic object into the Unit.

How to Put Batteries in the Remote Control

Match the polarity (+ and -) on the batteries with the + and - markings on the battery compartment.



CAUTION: Observe Proper Handling of Batteries.
To avoid battery leakage or explosion:
- Remove batteries when the Remote will not be used for a long time.
- When you need to replace the batteries, replace both batteries at the same time with new ones.
- Don't use an old battery together with a new one.
- Don't use different types of batteries together.

Connection Diagrams and Instructions

Connecting the AM (MW/LW) and FM Antennas

FM Antenna Connections

For Germany

A Using the Supplied Wire Antenna
The FM wire antenna provided can be connected to a FM 75-ohm COAXIAL as a temporary measure.

B Using the Coaxial Type Connector (Not Supplied)
A 75-ohm antenna with coaxial type connector (DIN 45332) should be connected to the FM 75-ohm COAXIAL terminal.

For Other Countries

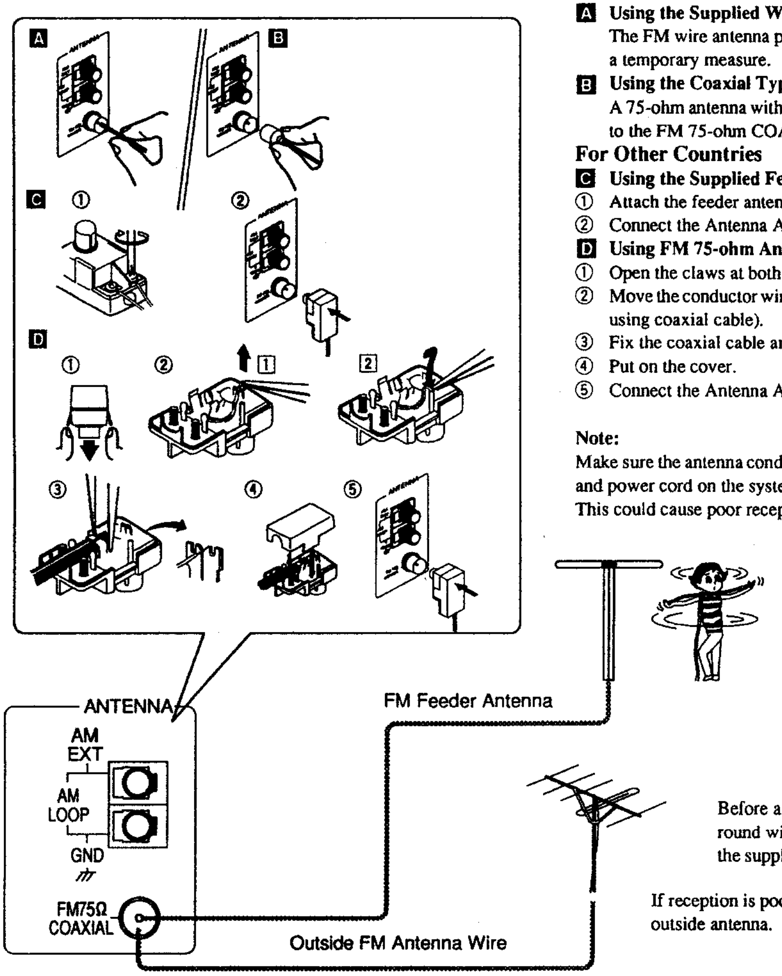
C Using the Supplied Feeder Antenna

① Attach the feeder antenna to the Antenna Adaptor as shown in the figure.
② Connect the Antenna Adaptor to the FM 75-ohm COAXIAL terminal.

D Using FM 75-ohm Antenna Cable (Not Supplied)

① Open the claws at both sides and remove the cover.
② Move the conductor wire from 1 to 2 using tweezers or similar tool (only when using coaxial cable).
③ Fix the coaxial cable and its core.
④ Put on the cover.
⑤ Connect the Antenna Adaptor on the FM 75-ohm COAXIAL terminal.

Note:
Make sure the antenna conductors do not touch any other terminals, connecting cords and power cord on the system.
This could cause poor reception.

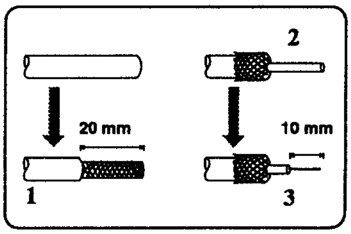


For Germany
Extend the supplied wire antenna horizontally.

For Other Countries
Unfold the loops of the supplied dipole FM feeder antenna and extend them as shown. Fasten them up in the position which gives you the best FM reception.

Before attaching a 75 ohm coaxial lead (the kind of round wire going to an outside antenna), disconnect the supplied dipole indoor antenna.

If reception is poor, connect the outside antenna.

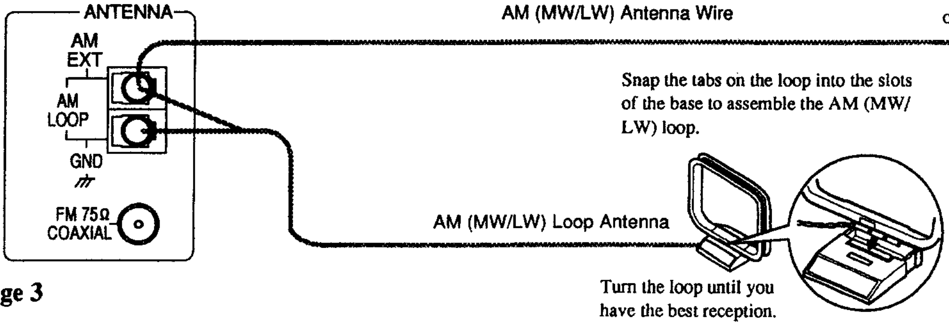


How to Strip the 75-ohm Coaxial Cable

1. Strip back the outside covering of the 75 ohm coaxial cable to expose the braided metallic mesh.
2. Pull the mesh back and twist into a single connector as shown.
3. Strip the insulation about 10 mm back from the central wire.
4. Attach to the supplied Antenna Adaptor, as shown in the diagram above.

AM (MW/LW) Antenna Connections

If reception is poor, connect the outside antenna.

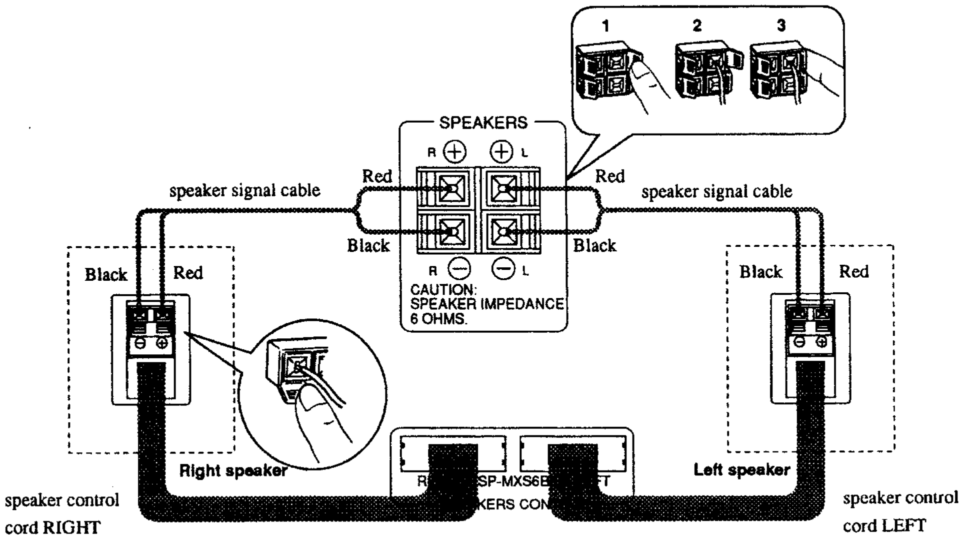


Snap the tabs on the loop into the slots of the base to assemble the AM (MW/LW) loop.

Turn the loop until you have the best reception.

Note: Even when connecting an outside AM (MW/LW) antenna, keep the indoor AM (MW/LW) loop connected.

Connecting the Optional Speakers (SP-MXS6BK)

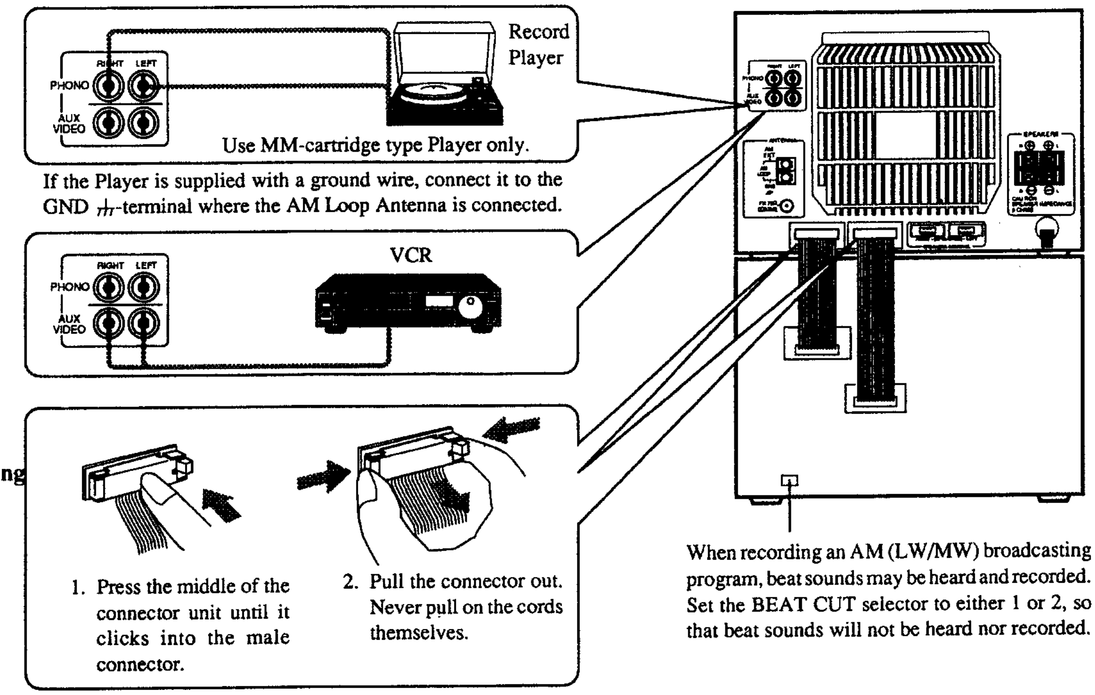

1
2
3
SPEAKERS
R ⊕
⊕ L
Red
Red
speaker signal cable
speaker signal cable
Black
Black
R ⊖
⊖ L
CAUTION:
SPEAKER IMPEDANCE
6 OHMS.
Black
Red
Black
Red
Right speaker
Left speaker
speaker control
cord RIGHT
speaker control
cord LEFT

For each speaker connect one end of the speaker signal cable to the speaker terminals on the back of the CA-MXS6BK and one end to the speaker.
On the back panel:

1. Open each terminal.
2. Insert the end of the speaker signal cable as shown (be sure to remove the insulation at the end of each wire first).
3. Close the terminals to clamp the speaker signal cable firmly in place.
4. Connect the red (+) and black (–) terminals of the right side speaker to the red (+) and black (–) terminals marked R on the CA-MXS6BK. Connect the red (+) and black (–) terminals of the left side speaker to the red (+) and black (–) terminals marked L on the CA-MXS6BK.
5. Connect SPEAKERS CONTROL RIGHT and LEFT with the supplied speaker control cords.

Caution: If the TV is installed near speakers, irregular colors may result. In this case, set the TV away from the speakers.

Connecting the System Connecting Cords and Connecting Auxiliary Equipment


Record
Player
RIGHT LEFT
PHONO
AUX
VIDEO
VCR
RIGHT LEFT
PHONO
AUX
VIDEO

Record Player

Use MM-cartridge type Player only.

If the Player is supplied with a ground wire, connect it to the GND ⏚-terminal where the AM Loop Antenna is connected.

VCR

System Connecting Cords

1. Press the middle of the connector unit until it clicks into the male connector.
2. Pull the connector out. Never pull on the cords themselves.

When recording an AM (LW/MW) broadcasting program, beat sounds may be heard and recorded. Set the BEAT CUT selector to either 1 or 2, so that beat sounds will not be heard nor recorded.

CAUTION: First make all connections before plugging the Unit into any AC power outlet.

Read Me First

How to get the most for your money by using this manual.

The Engineers at JVC have made the CA-MXS6BK very easy to use, and if you are experienced using audio equipment, you can figure out how to use some of the CA-MXS6BK controls by yourself. However, we have built some new features into this model, which you can learn about easily from the manual.

If you are a new user or just want a review, this manual explains how to use the CA-MXS6BK and take advantage of its features for playing and recording music, as well as other sounds. One way to use this manual is to read it through now and refer back to it when you need to refresh your skills for some special operation. Of course you can just look up the topics, such as recording a CD, that you want to do, but remember that you may need to refer to other parts of the manual for some of the instruction: for instance, in explaining how to record a CD, we assume you already know how to load a CD. That's why we recommend that you read the manual through once before starting. We've made it short, and easy to follow.

However before you proceed, please read the IMPORTANT CAUTIONS on page 2 and the set-up directions.

How This Manual Is Organized

IMPORTANT!
Special features for a special Manual.

This is a special manual, designed to accommodate several languages. To keep the size from becoming too great, yet still give you a top quality instruction manual, we have incorporated some special features:

- A fold-out page to look at while you read the instructions shows the front controls of the CA-MXS6BK. Some procedures have the illustrations of which control to use right with them, and for some you will need to look at the fold-out for the illustration.
- Basic information that is the same for many different functions is grouped in one place, and not repeated in each procedure. For instance, in the section on playing a CD, we do not repeat the information about setting the volume and the sound conditioning, which are talked about in the Common Operations section.
- Names of buttons, controls and function names that light up on the display panel are written in all Capital letters like this: POWER.
- When we are talking about the Function, rather than the BUTTON or DISPLAY, then we just capitalize the first letter of the words.
- The ☞ alerts you to important information or how to solve special problems that may occur when using the CA-MXS6BK.

The column on the left of the page is a special place to make it easier to find just what you want to know about, with little headlines announcing what each part of the page is about. Sometimes illustrations and helpful hints are placed here also.

Basically we use three kinds of information to help you understand and use the CA-MXS6BK:

- ☐ Information about what you can do (such as record a CD or preset a radio station) and how the Unit is designed to make doing this activity easy.
- ☐ Procedures, usually numbered in the order you do the steps, to guide you in exactly what to do to accomplish something, such as tune a radio station or record a tape.
- ☐ Information you need to know to make decisions about which functions of the CA-MXS6BK to use for particular tasks (such as when to use Dolby NR to improve tape sound) and special hints to make your work go smoothly, like reminding you to set the sound effects before starting the CD to tape recording, since they cannot be changed once recording begins without starting completely over.

The manual has a table of contents to help you easily look up what you want to know.
We've enjoyed making this manual for you, and hope you will use it to enjoy the sound and many features built into your CA-MXS6BK.

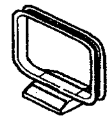
Getting Started Right

Unpacking

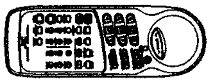
Inside the packing box....

Of course you have already opened your CA-MXS6BK carton, since you are reading this manual. Although the Unit is quite sturdy, you may want to save the packing to re-pack your CA-MXS6BK in case you are moving it some distance.

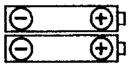
Check to be sure you have all of the following things, which are supplied with the CA-MXS6BK:



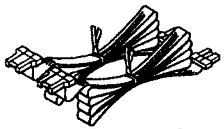
AM (MW/LW) Antenna



Remote Control

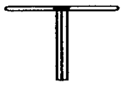


Batteries

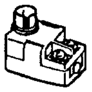


Speaker Control Cords

FM Wire Antenna
(only for Germany)



FM Feeder Antenna
(except for Germany)



Antenna Adaptor
(except for Germany)

If any are missing, contact your dealer immediately.

Location

Where can you put it?

You can place the CA-MXS6BK in many different kinds of locations to suit your needs; just observe the cautions on page 2: keep away from moisture and heat; leave some space between the Unit and its surroundings, more than 1 cm at the sides of the console and 10 cm at the back.

Do not place the CD/Cassette Deck Section on the Tuner/Amplifier Section. If you do, the ventilation holes of the Tuner/Amplifier Section will not work.

Set Up

Very little assembly required

You will need to do the following six things to get your CA-MXS6BK ready to use.

1. Connect the Antenna(s).
2. Connect the System Connecting Cords.
3. Connect the Speaker Control Cords.
4. Connect the Speakers.
5. Put batteries in the Remote Control.
6. Connect other sound sources (VCR, Record Player) if used.

1. Connect the Antenna(s)

Please look at the diagrams on pages 3 and 4 to do these things.

Follow the diagrams on page 3. Here's what you need to know:

- ☐ For AM (MW/LW) reception you must connect the supplied loop antenna. If reception is poor, connect the outside antenna, but leave the loop antenna in place—the AM (MW/LW) will not work correctly without it.
- ☐ For FM reception, connect the supplied wire as shown. However, if you use an outdoor antenna, disconnect the indoor FM antenna first.
- ☐ To avoid noise, keep antennas away from metallic parts of the CA-MXS6BK, connecting cords and the AC power cord.

2. Connect the System Connecting Cords

Basically, you look at the diagrams on page 4 and follow the pictured instructions. Be sure to match the polarity of the two terminals: A-A and B-B.

3. Connect the Speaker Control Cords

Basically, you look at the diagrams on page 4 and follow the pictured instructions.

4. Connect the Speakers

Basically, you look at the diagrams on page 4 and follow the pictured instructions.

5. Put Batteries in the Remote Control

Pay close attention to getting the batteries in correctly—we've made it very easy, just match the + and - marks on the batteries with the + and - markings on the Remote. See page 2 for instructions.

CAUTION: Handle batteries with care. See page 2 for proper use of batteries.

6. Connect Other Sound Sources, such as VCR or Record Player (Optional)

You can play the sound portion of a TV program or video tape through your CA-MXS6BK's sound system, often improving it greatly. To do this, a VCR or Record Player can be hooked up to play through the CA-MXS6BK. Just follow the diagram on page 4.

Now you can plug the AC power cord into the wall outlet, and your CA-MXS6BK is at your command!

CAUTION: First make all connections before plugging the Unit into any AC power outlet.

Read on and find out how to use the many features built into your Unit.......... **Page 6**

Common Operations

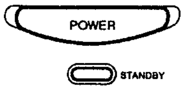
Here are the things that apply to all the functions of your CA-MXS6BK. If something in a procedure is unclear to you, check back here.

The Magic of

COMPUPLAY

COMPUPLAY

COMPUPLAY is JVC's new feature that lets you control the most used functions of the CA-MXS6BK with a single touch. This One Touch Operation starts playing a CD, turns on the radio or plays a tape with a single press of the play button for that function. What One Touch Operation does for you is to turn the power on, then start the function you have called for. If the Unit is not ready, such as no CD or tape in place, the Unit still comes on and then pauses so you can put in a CD or tape.
How One Touch Operation works in each case is explained in the section about that function.



Turning the CA-MXS6BK On

Press POWER; the STANDBY indicator goes out.

- ☐ The CA-MXS6BK comes on ready to do whatever it was doing when the power was last shut off. So if the last thing you were doing was listening to a tape in deck B, you now are ready to listen to a tape again in deck B, or you can change to another source.
- ☐ If you were listening to the radio last, the radio comes on playing that last station.

Be sure to read the caution at the end of this section concerning sound levels, and possible damage to your hearing or the equipment.

Turning the CA-MXS6BK Off

Press POWER again; the STANDBY indicator lights up and the display blanks, except for the clock display.

- ☐ The small amount of the power (13 watts) is always consumed even in the stand-by mode..
- ☐ To switch off the Unit completely, unplug the AC power cord from the AC outlet. When you unplug the AC power cord, the clock will be reset in one minutes and the preset stations of the Tuner will be erased in about one week.

Making it sound the way *You* want it to:

Controlling the Sound

The same set of buttons and knobs control the sound, no matter which function is producing it. Here we will briefly explain how these controls work, and how you can use them to increase your enjoyment of the music.

•Volume

Volume Control

Rotate clockwise to increase loudness, counter-clockwise to reduce loudness. Be sure to read the caution at the end of this section about high sound levels damaging your hearing or your equipment.

•Balance

Speaker Balance Control

If the sounds you hear from the right and left speakers are not well-balanced, you can adjust the speaker output balance with the BALANCE control.

Special Effects Control

The CA-MXS6BK has some preset sound effects that give you control of the way your music sounds, so you can tailor it for your room and for the quality of the source. We can give you some idea of how each one affects the music, but the only way to really tell is to try them yourself. Depending on the way each recording is made, or the quality of the radio signal, they will affect different pieces differently. Feel free to experiment!

•ROCK
•POPS
•CLASSIC
•CAR
•H.PHONE

Preset SEA (Sound Effect Amplifier) effects

You can select a SEA effect by pressing SEA and select one of the following effects. The effect you want is pointed with the cursor (▶) in the display:

ROCK	Increases both treble and bass sounds.
POPS	Increases the richness and fullness of the vocal sound.
CLASSIC	Adds depth and brilliance to the sound.
CAR	For recording onto car stereo tapes.
H.PHONE	For recording onto headphone stereo tapes.

Moreover, each SEA effect has 10 different SEA patterns. After selecting your desired SEA effect mode, press the SEA preset button.
For example, when you have selected POPS, pressing POPS gives you the following settings:

→ POPS1 → POPS2 → POPS3 → . . . → POPS10

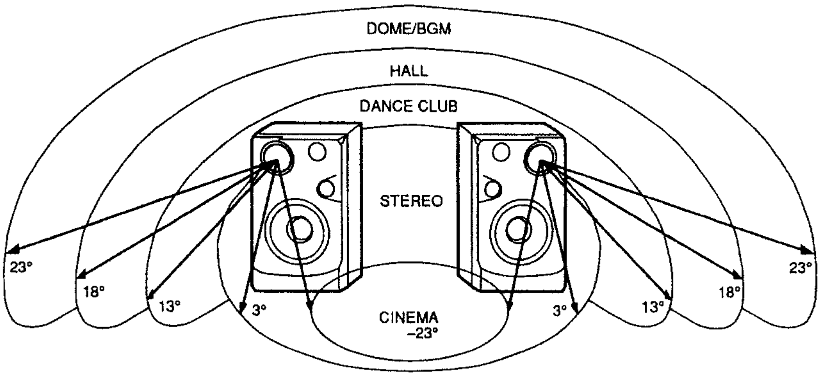
When you select Panorama Surround effects or when you press SEA again, the SEA effect will be cancelled.

- ☐ You can apply the SEA modes when you record.
- ☐ A sound cannot be dubbed with the SEA modes (at either normal or high speeds).

- **DANCE CLUB**
- **HALL**
- **DOME**
- **BGM**
- **CINEMA**

Panorama Surround effect

With five Panorama Surround modes and the Panorama Shifting Speakers (optional), the sound field can be enlarged to give a more realistic sound.
By connecting the optional Panorama Shifting Speakers, the angle of the speakers will shift in accordance with the respective Panorama Surround mode:DANCE CLUB, HALL, DOME, BGM, CINEMA.



DOME/BGM	will shift outward 23°
HALL	will shift outward 18°
DANCE CLUB	will shift outward 13°
CINEMA	will shift inward 23°

☐ Panorama Shifting Speakers inside the cabinet will shift corresponding to the respective Panorama Surround mode. The speakers shift automatically inward or outward to give you the dynamic sound fields.
The mode can be set from either the Unit or the Remote.

☐ In the CINEMA mode, the speakers will shift inward to give a movie theater effect and make the spoken words easier to hear.

☐ If the TV is installed near speakers, irregular colors may result. In this case, set the TV away from the speakers.

☐ Normally, the speakers face directly forward.

Select the following Panorama Surround mode with the Panorama Surround preset buttons.

DANCE CLUB	Gives the throbbing bass beat.
HALL	Gives clear vocals and the feeling of a recital hall.
DOME	Gives the spacious feeling of a domed stadium.
BGM	Gives a easy listening sound with low-volume sounds drowned out.
CINEMA	Gives a movie theater feel and makes the spoken words easier to hear.

Moreover, each Panorama Surround effect has three different patterns. After selecting your desired effect mode, press the Panoram Surround preset button.
For example, when you have selected DOME, pressing DOME gives you the following settings:

→ DOME1 → DOME2 → DOME3 ─┐

☐ When you change the setting of the sound effect among the available three patterns, the speaker angle does not change.

☐ You can apply the Panorama Surround modes when you record.

☐ A sound cannot be dubbed with the Panorama Surround modes (at either normal or high speeds).

When you press SEA or when you press the Panorama Surround preset button, the Panorama Surround mode will be cancelled.

The speaker angle

To change the speaker angle

Press IN/OUT on the Remote to change the angle.
The indicator will blink to indicate the speaker's direction of movement.

☐ Press IN on the Remote to shift the speakers inward.

☐ Press OUT on the Remote to shift the speakers outward.

☐ Press AUTO on the Remote to shift the speakers automatically in accordance with the Panorama Surround mode selected.
In the CINEMA mode, if the Remote is used to shift the speakers, the Panorama Surround mode will change from CINEMA to another one.

To cancel Panorama Surround mode

You can turn off Panorama Surround mode from either the main Unit or the Remote. Just press PANORAMA SURROUND.

ON: the indicator on the main Unit lights up.
OFF: the indicator on the main Unit goes off.

SOUND EFFECT DEMONSTRATION

Sound Effect Demo Mode

Since there so many preset sound effects, you may be sometimes unable to decide which sound effect to select. In this case, you can use a very useful function – Sound Effect Demo Mode.

- ☐ While playing a CD, a tape, etc., keep pressing PANORAMA SURROUND/DEMO for a few seconds. The Unit starts demonstrating 3 preset patterns of each Panoram Surroun effect (DANCE CLUB, HALL, DOME, BGM, and CINEMA) and10 preset patterns of each SEA effect (ROCK, POPS, CLASSIC, CAR, and H.PHONE) for a few seconds. When you find the desired sound effect, press PANORAMA SURROUND/DEMO again to cancel the demo mode, and select the sound effect.

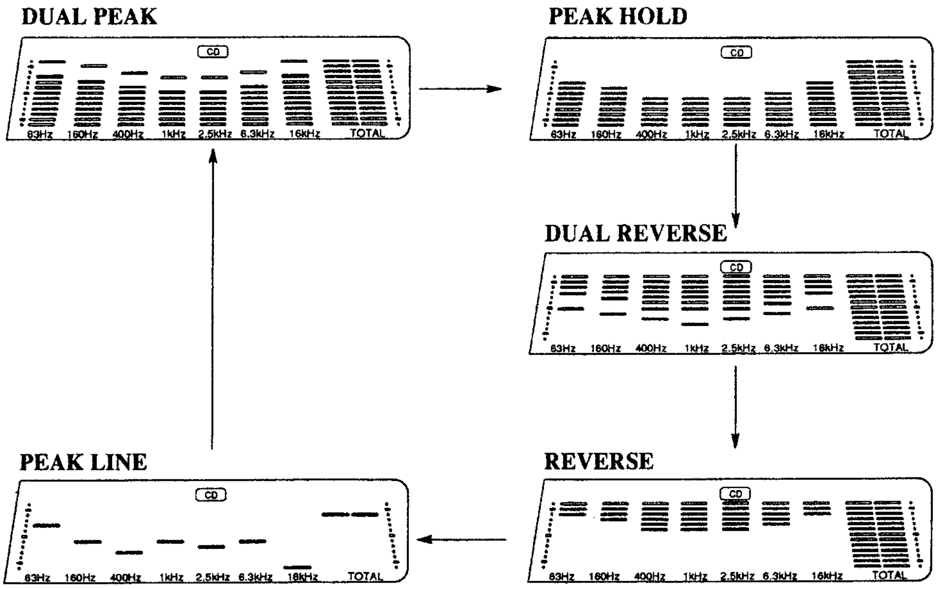
Things to remember about using special effects:

- ☐ Experiment with and set your special effects *before* you start recording with Auto Edit or Programmed Edit, because once recording starts, the special effects cannot be changed without stopping recording, and often having to start over. If you need different sound effects for each selection, use the standard recording features described on page 17, rather than Auto Edit or Programmed Edit.
- ☐ Each of the special effects changes the sound in a different way by changing which parts of the sound are increased or reduced. To see how each part of the sound will be changed, watch the display just as you press an effect button when music is playing. You will see a graphical display showing the effect's pattern for just a short time before the effect starts.
  Or press DISPLAY on the Remote to change the display pattern.

Changing the display pattern

DISPLAY

The display shows the status of each frequency band of the sound. During play, press DISPLAY on the Remote. Each time you press the button, the display shows the various sound patterns.
DUAL PEAK and DUAL REVERSE show also the SEA pattern simultaneously.



ACTIVE BASS EXTENSION

Active Bass Extension

This feature is designed and incorporated to reinforce the bass sound, depending on the volume level to maintain the richness and fullness of the bass. You cannot control it manually.

VOCAL MASKING

Using the Vocal Masking Function

Pressing VOCAL MASKING cancels the voice part of a song so you can broadcast your own voice through a microphone in place of the lead singer. Now it sounds as if you are singing directly with the band. See page 24 for a more complete discussion of this function.

MSEC
(Multi Source-Related Effect Control)

Memorizing the Sound Effect for Each Sound Source

Press MSEC on the Remote so that the indicator lights.

- ☐ The learning function of the CA-MXS6BK memorizes one sound effect for each sound source, so once you set your desired sound effect for each sound source, you don't have to repeat the many setting procedures each time you play the sound source.
  While the indicator is lit, each time you change the sound source, the preset sound effect for that sound source will be recalled.

To cancel the MSEC function, press MSEC on the Remote again so that the indicator goes off.

Listening with Headphones

A standard pair of headphones can be connected at the PHONES jack on the front panel. No sound can be heard from the speakers. **Be sure to turn down the volume before connecting or putting on headphones, as high volume can damage both the headphones and your hearing.**

The Display
and
The LEDs

The Display and the LEDs—Two Very Useful Hints

- ☐ The Display Panel tells you many useful things about what your Unit is doing. Watch it as you give instructions to the CA-MXS6BK by pressing buttons.
- ☐ A few of the controls have a small light, called an LED. The light comes on when the function is on, and goes out when it is not in use.

Caution:
Too LOUD!

What's Next?

Now that you know how to control the sound, go on to learn how to enjoy each sound source: Tape, CD, Radio, and Connected Equipment.

> CAUTION: Always set the VOLUME control to MIN before turning on a connected source such as a VCR or Record Player, or starting any other of the sound sources such as the radio, tape, or CD player. Otherwise, if the VOLUME control is turned up, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.

Listening to the Radio

The controls for the radio are located in the Tuner section, just above the large volume control. With these controls you can browse through all the stations or use the preset function to go immediately to a particular station.

- To record from the radio, see "Recording any Sound Source to Tape," page 18.
- To set the timer to turn the Unit off at a certain time, see "Sleep Timer," page 23.

First we'll explain how to tune in stations, and then how to preset the ones you listen to often.

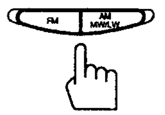
Radio

One Touch Radio

Just press AM (MW/LW) to turn on the Unit and start playing the most recent AM (MW/LW) station tuned in, or press FM to start the most recent FM station playing. If you press TUNER on the Remote instead, you can start playing the most recent station tuned in.

☐ You can switch from any other sound source to the radio by pressing either AM (MW/LW) or FM.

Three ways to tune in a station



Tuning in a Station

Press AM (MW/LW) or FM to turn on the radio. The display shows the frequency of the station tuned to.

You have three ways to select a station:

1. Press and release TUNING/TIMER/DIMMER < or > to move from station to station until you find the one you want.

   OR
2. Hold down TUNING/TIMER/DIMMER < or >, and the display cycles through all the stations one after the other. Release the button when you see the one you want.

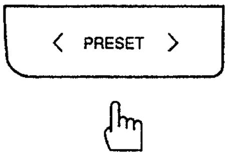
   OR
3. Press once and release PRESET > to go to the next preset station, or hold PRESET < or > to cycle through the preset stations: release the button when the preset station you want shows on the display. (This method is possible after presetting stations by yourself.)

You can also use the Remote to tune in stations and preset channels:

- To tune preselected stations with the Remote:

1. Press TUNER so that you can receive the most recent station tuned in.
2. Select the station by entering the preset channel number in the 10 Key pad of the Remote. The display shows the new channel number and frequency.

How to preset AM (MW/LW) and FM radio stations



Presetting Stations

Once a station is assigned to a channel number, the station can be quickly tuned either from the Remote using the 10 Key pad or the CA-MXS6BK itself using PRESET <, > or +10 to call up the channel number.

☐ You can preset a total of 40 stations, either AM (MW/LW) or FM.

☐ Preset stations may be erased when power is cut off to the Unit, as when it is unplugged from the AC outlet or a power failure occurs. If the preset stations are lost, simply set the stations again using the following procedure.

To preset radio stations:

1. Tune in the station you want to set.
2. Press MEMORY.

   ☐ On the display, MEMORY lights up and "-- --" will blink for 5 seconds. During these 5 seconds while "-- --" is blinking you can assign a channel number to the station and enter it into the memory.
3. Select a channel number by pressing PRESET <, > or +10 until you find the channel number you want. When you press +10, the ten's digit will increase.

   For example, to select 21, press +10 twice and PRESET > twice. To select 19, press +10 twice and PRESET <.
4. Press MEMORY and the station will be assigned to the channel number showing on the display.

To cancel the preset stations:

1. Press CANCEL.
   - On the display, CANCEL and "-- --" will blink for 5 seconds. During these 5 seconds while CANCEL and "-- --" are blinking you can cancel preset stations.
2. Select a channel number by pressing PRESET <, > or +10 until you find the channel number of the station you want to cancel. When you press +10, the ten's digit will increase.
3. Press CANCEL and the station will be erased.

PRESET SCAN

Scanning through Preset Stations

You can scan through your preset radio stations, stopping at any station you want to listen to.

1. Press PRESET SCAN.
   - The Unit scans your preset stations, starting with the frequency being received, and moving upward.
     Each preset station is received for a few seconds with the channel number blinking.
2. If you want to listen to one of the preset stations, press PRESET SCAN again while the channel number is blinking.

If you do not stop at any station, the Unit will scan through the preset stations once, then return to the station tuned before scanning started.

FM MODE/MUTE

Receiving in Stereo or Monaural

When an FM stereo broadcast is hard to receive or noisy:

- Press FM MODE/MUTE and reception will improve, although you will loose the stereo effect.
  In this state, you will hear some noise while tuning into a station.
- To restore stereo effect, press FM MODE/MUTE again so that AUTO appears in the display.
  In this state, when a program is broadcast in stereo, you will hear stereo sound; when in monaural, you will hear monaural sound. Furthermore, in this state, you won't hear noise while tuning into stations.

Listening to a Compact Disc

COMPU PLAY

Compact Disc Play

The quickest way to start a CD is with One Touch Operation:
- ☐ Press Play/Pause ▷/II on the CD player or Play ▷ in CD CONTROL on the Remote.
  - ☐ If a CD is already loaded, the Unit automatically turns on and starts to play it from track 1.
  - ☐ If no CD is loaded, the CD tray opens, and you can put in a CD, printed side up, press Play/Pause ▷/II and the tray closes and the CD starts playing.
  - ☐ If you press ⏏ OPEN/CLOSE, the Unit automatically turns on and the CD tray comes out.

How to use the CD player: from the most basic to advanced

Basics of Using the CD Player

Here are the basic things you need to know to play a CD and locate the different selections on it. Each selection is called a track, so when we are talking about locating a track, we are also talking about how you find a certain song or performance.

To Load, Play, and Stop a CD

1. Press ⏏ OPEN /CLOSE.
2. Put a CD, printed side up, into the tray.
3. If you want to listen to the CD now, press ▷/II and adjust the volume.
   - ☐ The CD tray closes automatically.
   - ☐ The display shows the track being played and the length of time since it started.
4. To stop the CD, press ■/CLEAR. When you start again, the CD begins with track 1.
5. To pause the play, press ▷/II while the CD is playing so when you press ▷/II again the CD starts just where you left off.
6. To remove a CD, press ⏏ OPEN/CLOSE, take the CD out, and press ⏏ OPEN/CLOSE again to close the tray. Keep the tray closed except during loading and unloading to protect the mechanism from dust and damage.

PLAY/PAUSE

CD
Find track

How to Find the Track or a Particular Point You Want

- ☐ Each time you press briefly and release SEARCH /EDIT TIME ⏮ or ⏭ the track changes by one.
  - Press and release SEARCH/EDIT TIME ⏭ to go ahead one track at a time.
  - Press and release SEARCH /EDIT TIME ⏮ to go back one track at a time.
- ☐ Holding down SEARCH/EDIT TIME ⏮ or ⏭ will fast forward or fast reverse the CD so you can quickly find the particular part of a track you want to listen to.
- ☐ Holding down ⏮ or ⏭ on the CD CONTROL section of the Remote allows you to change tracks continuously.

Using the Remote to find a track

Locating a Track with the Remote Directly

Using the 10 key pad on the Remote allows you to go directly to the beginning of any track.
1. Press CD 10 KEY.
2. Enter the number of the track you want using the 10 key pad.
   - Example: for track 5, press 5. For track 15, press +10 then 5. For track 20, press +10, then 10.
3. As long as a CD is loaded and the Unit is on, as soon as you enter the number of the track you want, it will start to play.

With programming, you can play back tracks in any order

Programming the Playing Order of the Tracks

In addition to the high quality sound which makes the CD such a good way to listen to music, you can change the order in which the tracks play.

Random Play

Before starting a CD, press RANDOM on the CD player.
- ☐ The tracks will play in no special order.
- ☐ When all of the tracks have been played, the CD shuts off.
- ☐ Press REPEAT before or during random play to instruct the CA-MXS6BK to continue with a different random track selection after the last selection is played.
- ☐ To cancel random play, press ■/CLEAR.

Program with the Remote

Programmed Play

You can arrange the tracks to play in any order you like with the Program function. The Remote is very useful for this because you can select tracks by number with the key pad. See "How to Use the Remote Control," page 25, if you need more information about its use. You can also use the main Unit.

How to program: just 5 easy steps

To program the CD track order from the Remote, follow this procedure:

1. Press PROGRAM.
2. Press CD 10 KEY.
3. Press the number of the first track you want to hear, then the number of the second track, and so on until you have entered all the track numbers you want to play.
   - ☐ Refer to the section "How to Use the Remote Control" on page 25 if you have questions about how to enter numbers above 10.
   - ☐ Your program can include up to 32 tracks, and you can repeat tracks if you wish.
4. Press Play/Pause ▷/II to start the program—the first track you programmed will start to play, followed by the next one you entered, until all the selected tracks are played.
5. To stop the CD during Programmed Play, Press Stop ■. To cancel the program, press PROGRAM on the Remote or ■/CLEAR on the main Unit.

Programming from the front panel

To program the CD from the main Unit, follow this procedure

1. Press PROGRAM.
2. Press SEARCH/EDIT TIME ⏮ or ⏭ to locate the track you want to start with.
3. Press PROGRAM to store the selected track.
4. Repeat steps 2 and 3 until you have entered all the tracks you want to program.
5. Press Play/Pause ▷/II and the Unit will begin playing the tracks in the order you programmed them.

Programming Hints

A few hints to make programming easier

- ☐ If you want to change the entire program, press ■/CLEAR on the main Unit, and then you can start over.
- ☐ If you want to erase the last selection, press CANCEL on the Remote. Each time you press CANCEL the last selection in the program will be erased.
- ☐ To view the order of the tracks in your program when it's playing, press Stop ■ on the Remote, then press ⏮ or ⏭ on the Remote to display the order of the tracks. Each time you press ⏭ the next selection in your program is displayed. (Press ⏮ for the previous selections.)
- ☐ To add a track to your program, just press the number you want to add.

Repeat a selection or the whole CD

Repeating a Selection or the Entire Disc

- ☐ You can have either the program or the individual selection currently playing repeat as many times as you like by pressing REPEAT. Each time you press REPEAT, it cycles from OFF, which turns the REPEAT indication out on the display, to REPEAT which will repeat all tracks in order or according to the program you have set, and REPEAT 1 which will repeat the currently playing track. To cancel Repeat, just press REPEAT until the REPEAT indication on the display goes off.

Listening to a Tape

**Listen to a tape:
How to use your tape deck**

The tape deck allows you to play, record and dub audio tapes.

☐ To record or dub, see Recording page 17.

☐ With Automatic Tape Type Detection, you can listen to type I, II, or IV tapes without changing any settings.

☐ To play a tape and learn about the many easy to use features of the dual tape deck built into your CA-MXS6BK, read on here!

Playing Back a Tape

You can play a tape from either deck A or deck B; but remember: only deck B can record.

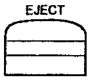
COMPUPLAY

One Touch Play

By pressing either Play Forward ▷ / Play Reverse ◁ the power will come on, and if a tape is in the deck, it will start to play. If no tape is loaded, the Unit will come on and wait for further instructions.

Regular Play

**Playback
Procedure**



When power is already on, you can use this basic procedure:

1. Press EJECT, which is located just to the right of the deck, for the deck you want to use.
2. When the cassette carrier opens, put the cassette in, with the exposed part of the tape down toward the base of the CA-MXS6BK.
   ☐ If the cassette carrier does not open, turn the Unit off, then back on again and press EJECT.
3. Close the carrier gently.
4 Turn the volume down. (See the Caution on page 10 about possible damage from setting the volume too high.)
5. Press Play Forward ▷ to play the front side, or Play Reverse ◁ to play the reverse side.
6. To stop playing, press Stop ■. To remove the tape, press EJECT.

Fast Left and Fast Right

☐ While the tape is stopped, press Fast Left ◀◀ and the tape will wind rapidly onto the left side of the cassette without playing.

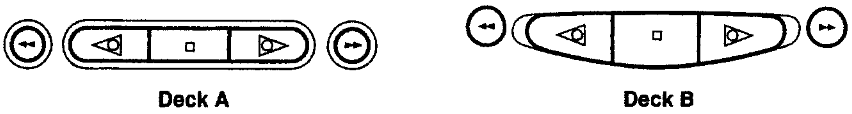
☐ While the tape is stopped, press Fast Right ▶▶ and the tape will wind rapidly onto the right side of the cassette without playing.

Music Scan

**Finding the place you want:
Music Scan**

To use the Scan function, you need to understand one basic idea, which might just make you a Master of Tape Control!

☐ Look at the Play Forward and Play Reverse Controls:



☐ When the power is on, the glowing LED shows the direction the tape was last moving. When the LED is blinking slowly, the tape is playing in the direction of the arrow. Now comes the tricky part: when the LED is blinking rapidly, the tape can be moving either the direction the arrow points, or the opposite direction, ***depending on whether you pushed* Fast Right ▶▶ *or* Fast Left ◀◀**. The tape will be going at high speed in the direction of the arrows of the button you pushed. The direction of the arrow with the rapidly blinking LED shows which way the tape will start playing when the fast search is done. Put in a tape and try it out.

☐ The Scan function works by detecting a 4 second blank at the beginning of each selection, so it won't work well if your tape has:

- No blank at the beginning of a track.
- Noise (often caused by much use or poor quality dubbing) which fills the blank with.
- Long very soft passages or pauses in a selection. The scan will detect these instead of the 4 second blanks. If this happens, just go ahead and scan again until you reach the selection you want.

☐ Music scan only works on one tape at a time.

- If you are recording on Deck B, music scan will not work on deck A.

Scan Forward.....

Scan Forward

With the tape playing, to find the beginning of the next selection, press Fast Right ►► or Fast Left ◄◄ whichever one points in the same direction as the arrow with the slowly blinking LED.

- ☐ The tape will fast forward to the next selection and begin playing it.

.....Scan Back

Scan Back

With the tape playing, to find the beginning of the selection now playing, press the Fast Right ►► or Fast Left ◄◄ button pointing the opposite direction from the arrow with the slowly blinking LED.

- ☐ The tape will fast reverse to the beginning of the piece and start playing it again.

More Useful Things to Know:
•Continuous Play
•Reverse Mode
•Dolby NR

Useful hints and features to know about when using your tape deck

- ☐ **Continuous Play:** When a tape finishes playing with the REVERSE MODE indicator on, the Unit always checks to see if a tape is in the other deck. If one is there, it automatically starts playing it. This Continuous Play happens regardless of which deck starts first.
- ☐ Use **Reverse Mode** to make the tape automatically reverse at the end of a side and start playing the other side. Press REVERSE MODE to change from Reverse Mode on (the LED is lit) to Reverse Mode off, or from off, to on.
  - If there is a tape in the other deck, it will start playing when both sides of the first tape have been played. As long as the Reverse Mode LED is lit, the tapes will continue to play in the above sequence.
- ☐ Press DOLBY NR to change the **Dolby Noise Reduction** setting. Each time you press this button the setting and the LED states change as follows.

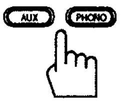
LED	Dolby system
off	—
red	Dolby B
green	Dolby C

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

Listening to a VCR or Record Player through your CA-MXS6BK

Advantages in Connecting a VCR or Record Player

By playing the sound from a VCR or Record Player through the CA-MXS6BK, you can often dramatically improve the quality, and gain control over how the music or program sounds. Once the connected equipment is playing through the CA-MXS6BK, you can apply the sound effects, make recordings, or listen with the headphones. Here are the steps to take:



1. Make a connection between the VCR or Record Player as shown on page 4.
   - ☐ Since there are many different types of VCRs and Record Players, we can't tell you here just how to make the connections on the other equipment. However, the diagrams on page 4 will cover most cases, and you can also look in the instruction manual for the VCR or Record Player you have.
2. Press PHONO or AUX either on the Unit or Remote.
   - ☐ The Unit is turned on and PHONO or AUX lights up on the display.
3. Switch on the connected equipment and start it playing.
4. Set the Unit's volume to its lowest setting. Use FADE/MUTING on the Remote, or turn the VOLUME control all the way counterclockwise.
5. To cancel the PHONO/AUX setting, change the source by starting any one of the CA-MXS6BK's built-in sound sources, such as the radio or CD player.

Recording

What can you record?
- **Tapes**
- **Radio**
- **CDs**
- **Microphone**
- **Connected Source**

Recording onto cassette tape from any of the sound sources is easy and the CA-MXS6BK does most of the work. Just have a tape in deck B, have the source ready, make one or two settings, and you're ready to record.

For each source the procedure is a little different and now we'll explain just what to do for each one. If you forget, just come back to the section which has the specific procedures you need. But first, here are a few things to make your recordings better.

Things to Know before You Start Recording:

Copyright

- **It may be unlawful to record or playback copyrighted material without the consent of the copyright owner.**

Reduce Hiss—Dolby NR

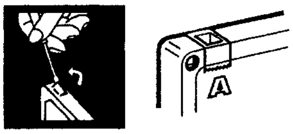
- Press DOLBY NR (noise reduction) to reduce tape hiss. This Unit can use one of two types of the Dolby NR system. Although Dolby C is more effective than Dolby B, if you play back the tape on another tape deck which has only Dolby B NR, you may have better results recording with Dolby B NR.

Recording Level

- The recording level, which is the volume at which the new tape is being made, is automatically set correctly, so it is not affected by the VOLUME control on the CA-MXS6BK. Thus, you can adjust the sound you are actually listening to without changing the recording. If you don't want to listen to the sound, you can turn the VOLUME control all the way down, or press FADE/MUTING on the Remote.

Erasure Protection

- Cassettes have a special feature so you won't accidentally record over a tape you want to save. Two small tabs on the back, one for side A and one for side B, can be removed to prevent erasure or re-recording. To record on a cassette with the tabs removed, you must cover the holes with tape first. However, when a Type II tape is used, only cover part of the hole as shown below, since the other part of the hole is used to detect the tape type.



Select Sound Effects

- When recording, you can select the sound effects with the preset sound effect buttons to condition the music as it is recorded. But when recording using Auto Edit or Programmed Edit, once recording has started, these settings cannot be changed. When recording from tape Deck A to Deck B, the sound effects cannot be used, because the signal doesn't go through the amplifier first. This method gives you the highest quality dubbed tapes.

- Type I, type II and type IV tapes can be used for recording.

☞ If recordings you make have excessive noise or static, the Unit may be too close to a TV which was on during the recording. Either turn off the TV or increase the distance between the TV and the CA-MXS6BK.

Standard Recording

Standard Recording: Any Source to Tape

This is the basic method for recording any source. The CA-MXS6BK also has special ways for recording CD to tape, and tape to tape, which save you time and effort, as well as give you some special effects.
However, when you need to add a selection to a tape you have made, or are combining selections from several sources on one tape, use the method we describe here; just substitute the source you want, such as a tape in deck A, or CD, or radio in this procedure. You can also record from the microphone or an auxiliary source with this procedure.

Source to Tape: Step by Step

Recording any Sound Source to Tape

Follow these steps to record from any sound source onto a tape in deck B.

1. Press POWER so the LED on the VOLUME control glows.
   - ☐ When you want to record on both sides of the tape, press REVERSE MODE to on and be sure to start recording from side A. If you start recording from side B, the deck stops after recording side B without going to side A, even if the Reverse Mode is on.
2. Load the tape you are making into Deck B.
3. Press REC PAUSE. The LED lights up.
4. Prepare the source, for example, tuning in a radio station, loading a CD, turning on a connected Record Player or VCR, etc.
   - ☐ If the source is already playing, just press REC PAUSE, then press either Play Forward ▷ to record on side A, or Play Reverse ◁ to record on side B.
5. When you want to start recording, press either Play Forward ▷ to record on side A, or Play Reverse ◁ to record on side B of the tape.
   - ☐ Hint: any time a source other than deck B is playing, you can record by putting a tape in deck B, pressing REC PAUSE, then Play Forward ▷ or Play Reverse ◁ to start recording that source.

CD to Tape, Introduction

CD to Tape Recording

There are three ways to record from CD to tape:

- ☐ The standard method described above.
- ☐ Auto Edit—Your CA-MXS6BK figures out which selections to put on which side of the tape, so a selection isn't cut off before it's finished when the tape runs out.
- ☐ Programmed Edit—You can decide the selections to be recorded in your desired order.

Auto Edit, CD to tape, Introduction

Recording a CD onto a Tape Using Auto Edit

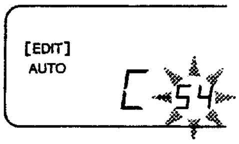
Using Auto Edit, you can arrange the CD tracks to fit the tape, so a selection isn't cut off when the tape runs out first. Auto Edit is one of the best ways to copy all of a CD onto a tape.

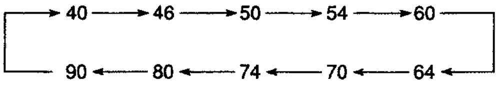
The selection of which tracks go on which side is based on the lengths of the tracks and the length of the tape. The CA-MXS6BK can figure out most of what it needs to know, but you will have to tell it the tape size you are using if your tape is a different size than the one picked by the program. Follow this procedure to record a CD using Auto Edit.

Auto Edit, CD to tape, Step by Step

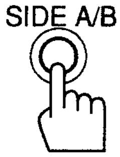
1. Put the cassette in deck B.
   - ☐ Press REVERSE MODE if you want to record on both sides of the cassette.
2. Load the CD into the CD Player.
   - ☐ If the CD is already loaded, be sure the power is on.
3. Set the sound effects you want now, since the sound environment cannot be changed once recording starts.
4. Press ■/CLEAR.
   - ☐ This cancels the previous edit or program setting.

5. Press EDIT on the CD player so that "[EDIT]AUTO" appears in the display. The system tells you the minimum standard tape length to use.
   - ☐ You can select a different length of tape, depending on the actual size of the tape you are using, from ten possibilities programmed into the CA-MXS6BK: 40, 46, 50, 54, 60, 64, 70, 74, 80, 90. Cycle through these choices using the SEARCH/EDIT TIME |◄◄ or ►►| until you find the length closest to your tape's actual length.

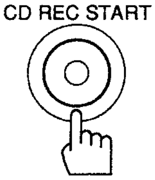




   - ☐ You can use the CD10KEY and the numeric buttons on the Remote to set the tape length as you wish.



6. Press SIDE A/B, and the display shows which tracks will go on side A and which on side B. Each time you press SIDE A/B the display switches between A and B.



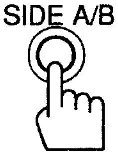
7. Now press CD REC START on the tape deck.
   - ☐ The tape automatically rewinds to the beginning of side A, a 10 second blank is created, and the CD begins to play and be recorded.
   - ☐ To stop recording any time during the process, press either Stop ■ on deck B or ■/CLEAR on the CD player. But remember: after you stop, if you restart, the tape will rewind and start recording the CD from the beginning.

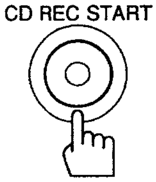
Programmed Edit, CD to tape, Introduction

Recording a CD onto a Tape Using Programmed Edit

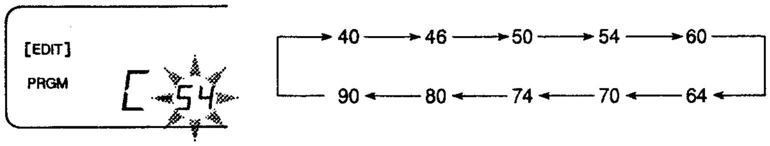
Using Programmed Edit, you can decide for yourself the selections to be recorded in your desired order. First, you will have to tell the Unit the tape size you are using if your tape is a different size than the one picked by the Unit. Then, you can make your program as you wish.
Follow this procedure to record a CD using Programmed Edit.

Programmed Edit, CD to tape, Step by Step



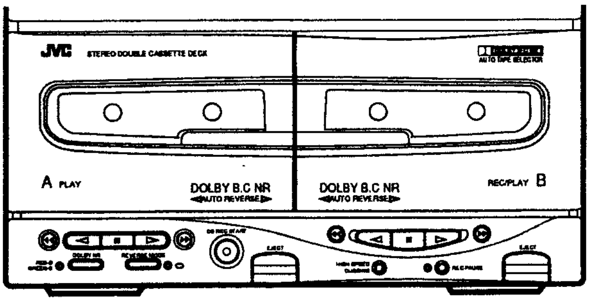


1. Put the cassette in deck B.
   - ☐ Press REVERSE MODE if you want to record on both sides of the cassette.
2. Load the CD into the CD Player.
   - ☐ If the CD is already loaded, be sure the power is on.
3. Set the sound effects you want now, since the sound environment cannot be changed once recording starts.
4. Press ■/CLEAR.
   - ☐ This cancels the previous edit or program setting.
5. Press EDIT on the CD player so that "[EDIT]PRGM" appears in the display. The system tells you the minimum standard tape length to use.
   - ☐ You can select a different length of tape, depending on the actual size of the tape you are using, from ten possibilities programmed into the CA-MXS6BK: 40, 46, 50, 54, 60, 64, 70, 74, 80, 90. Cycle through these choices using the SEARCH/EDIT TIME |◀◀ or ▶▶| until you find the length closest to your tape's actual length.



   - ☐ You can use the CD10KEY and the numeric buttons on the Remote to set the tape length as you wish.
6. Press SIDE A/B. Now the tape size is determined and you can make a program for side A. (See steps 2 and 3 on page 14.) After making a program for side A, press SIDE A/B again so you can make another program for side B.
7. Now press CD REC START on the tape deck.
   - ☐ The tape automatically rewinds to the beginning of side A, a 10 second blank is created, and the CD begins to play and be recorded.
   - ☐ To stop recording any time during the process, press either Stop ■ on deck B or ■/CLEAR on the CD player. But remember: after you stop, if you restart, the tape will rewind and start recording the CD from the beginning.

Tape to Tape Recording (Dubbing)



Tape to Tape Dubbing, Introduction

Recording from one tape to another is called dubbing.
You can dub at regular speed for highest quality, or at high speed with a slight loss in sound quality. With high speed it takes only about one-half the time to copy a tape.

- ☐ Refer back to "Things to Know before You Start Recording" on page 17.
- ☐ Refer back to "Listening to a Tape" on page 15 if you have other questions about operating the tape deck.

Regular Speed Dubbing, Step by Step

How to Copy a Tape With Regular Speed Dubbing

1. Put the cassette you want to copy *from* into deck A for playback.
2. Put the cassette you want to copy *onto* into deck B for recording.
   - ☐ Anything already on the cassette in Deck B will be erased as the new sound from deck A is copied onto it.
3. Press REC PAUSE on deck B.
4. Press the Play Forward ▷ (or Play Reverse ◁) on deck A.
   - ☐ Deck A starts playing and you are set to start recording deck A to deck B.
5. Press the Play Forward ▷ (or Play Reverse ◁) on deck B.
   - ☐ Recording starts, deck A playing and deck B recording.

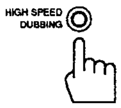
Important Dubbing Information

The type of tape (Normal CrO_2 or METAL) you record *from* must be the same as the type you record *onto* .

- ☐ When the tape you are recording from in deck A has been recorded with Dolby NR, dubbing will be done with same Dolby NR automatically.
- ☐ During regular speed dubbing you can only listen to the source tape. If you don't want to hear it, turn down the VOLUME control or press FADE/MUTING on the Remote. Only the sound you hear will be affected; the recording level is controlled automatically.
- ☐ You cannot dub using the SEA and Panorama Surround modes.

High Speed Dubbing

High Speed Dubbing, Step by Step



Although the quality of the dubbed tape is a little less, high speed dubbing is a very convenient way to record from one tape to another.

1. Put the cassette you want to copy *from* into deck A, and the cassette to be copied *onto* in deck B.
2. Press HIGH SPEED DUBBING on the tape deck.
   - ☐ Both decks start, deck A playing and deck B recording.
     - The sound you hear is strange because it is much faster than usual, and you may not want to listen to it. Turn down the VOLUME control or press FADE/MUTING on the Remote.
     - When using High Speed Dubbing, you can also listen to another source such as the radio or the CD player, just as if you weren't dubbing.
     - During High Speed Dubbing, if you listen to a CD with Auto Power Off turned on , the whole Unit, including the tape decks, may turn off when the CD ends.

Recording selections from several different tapes

When you want to take selections from several different tapes and combine them on one tape during high speed dubbing, follow these steps:

1. Press Stop ■ on deck A.
   - ☐ This causes deck A to stop, so you can change tapes, and deck B makes a 4 second blank and pauses.
2. Change the tape in deck A.
3. Press HIGH SPEED DUBBING to start deck A playing and deck B recording again.

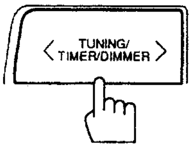
How to Use the Timers and Set the Clock

Five Timers:
- **Timer 1, Timer 2**
- **Daily**
- **Wake up**
- **Sleep**
- **Auto Power Off**

The timers let you control recording and playing functions automatically. With the CA-MXS6BK they are particularly easy to set and use. Five types of timers are available:
- ☐ **Timer 1, Timer 2** —unattended recording of radio broadcasts.
- ☐ **Daily** —recording of a radio broadcast that occurs at the same time every day.
- ☐ **Wake up Timer**—Wake up to music from any source.
- ☐ **Sleep Timer**—Fall asleep and have your CA-MXS6BK turn off automatically after a certain length of time.
- ☐ **Auto Power Off**—Automatically turns off the Unit when the CD or tape finishes.

IMPORTANT!
set your clock!

CLOCK ADJUST



Clock Setting

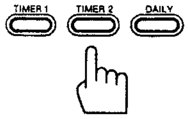
The timers depend on the clock: If the clock is right, the timers will work like you expect, but if the time is incorrect on the clock then the timers will also be incorrect.

Special Notice: The clock must be set, or the timers cannot be set!
So, let's set the clock first.

1. Press CLOCK ADJUST.
2. Set the hours by pressing TUNING/TIMER/DIMMER <, >. Pressing > increases the hour, and pressing < decreases it.
3. Press MEMORY.
4. Set the minutes by pressing TUNING/TIMER/DIMMER <, >. Pressing > increases the minute, and pressing < decreases it.
5. Press MEMORY again and the clock is set and starts from zero second.

☞ If there is a power failure, the clock looses its setting, the display shows "0:00" and it must be reset.

Recording when you're not there

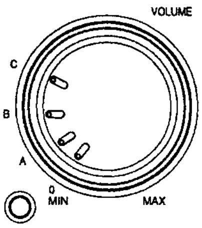


Setting Timer 1, Timer 2, and the Daily Timers

With these timers you can make a tape of a radio broadcast (or other sound sources) automatically whether or not you are there to start the CA-MXS6BK. You can also play the sound source at the specified time without recording them. For the timer to work correctly, you need to make sure of two things in addition to setting the time for the sound source and tape recorder to come on:
- ☐ The tape you want to record onto must be in deck B when you want to record.
- ☐ The radio station whose program you want to tape must be the last one played before timer comes on.

Follow this procedure to set Timer 1, Timer 2, and the Daily Timer:
1. Press TIMER 1, TIMER 2, or DAILY to tell the Unit which timer you are going to set. The corresponding indication (TIMER 1, TIMER 2, or DAILY) flashes in the display. As long as it is flashing, you can continue with the setting process. If you wait too long, and it stops before you are done, just press the button twice and start over.
2. Set the time you want the sound source to come on and the tape in deck B to start recording.
   - ☐ Use TUNING/TIMER/DIMMER <, > just like setting the clock. See instructions above.
3. Set the time you want the sound source to shut off and the tape in deck B to stop recording.
   - ☐ Use TUNING/TIMER/DIMMER <, > just like setting the clock. See instructions above.
4. Select the sound source with TUNING/TIMER/DIMMER <, > and press MEMORY to store it.
   - ☐ Each time you press TUNING/TIMER/DIMMER <, >, the Unit gives you one of the following settings:

Display	What it means
SOURCE -- -- -- -- --	Plays from whichever source was used just before turning off the Unit
SOURCE TUNER	Plays an FM or AM broadcast
TIMER REC SOURCE TUNER	Records an FM or AM broadcast
SOURCE -- -- CD	Plays a CD
SOURCE TAPE	Plays a tape
TIMER REC SOURCE -- -- -- -- --	Records from whichever source was used just before turning off the Unit



5. Set the volume level with TUNING/TIMER/DIMMER <, > and press MEMORY to store it.
   - Each time you press TUNING/TIMER/DIMMER <, >, the Unit gives you one of the following settings:

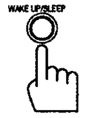
Display	What it means
VOL – –	Volume set to the level used before shut the power off.
VOL – 0	Volume off
VOL – A	Volume barely on
VOL – B	Volume at about a 1/4 turn of the volume control
VOL – C	Volume at about a 3/8 turn of the volume control

These volume settings do not affect your recording because the recording level is automatically set by the Unit. So if you're not home at the designated time, be sure to set the volume level to minimum.

6. Press TIMER 1, TIMER 2, or DAILY again, and the Unit will memorize the setting. Now the CA-MXS6BK is set to turn on and record the last station set when the Unit was last turned off.
   - Notice that the TIMER 1, TIMER 2, or DAILY indicator is lighted up on the display whenever the Timer is set.
7. To cancel the Timer setting, press TIMER 1, TIMER 2, or DAILY again; the corresponding indicator on the display goes off.

> ☞ It is very easy, and can be very disappointing, to forget to put in a tape, or to accidentally leave a tape in deck B you don't want recorded over. Although this happens to almost everyone sometimes, we hope it won't happen to you.

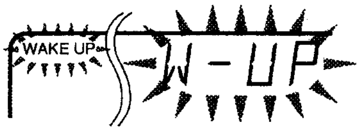
Wake up to music with the Wake Up Timer



Wake Up Timer

With this timer you can wake up to music from a CD, tape or your favourite radio program.

1. Press POWER to shut the Unit off.
2. Press WAKE UP/SLEEP—The WAKE UP indicator will light up in the display.
3. Set the time you want the Unit to turn on.
   - Each time you press WAKE UP/SLEEP, the wake up time lapse changes in the following order:



→0:05 →0:10 →0:15 →0:30 →0:45 →1:00
OFF ←12:00 ←····← 3:00 ←2:00 ←1:30

   - The WAKE UP indicator remains lit in the display to let you know that the wake-up time is set.
4. To cancel the Wake Up Timer setting, press POWER to turn on the Unit.

Hints for using your Wake Up Timer:

- If you select AM (MW/LW) or FM as the source, the last played station is the one which comes on at the wake-up time set.
- The volume when the timer turns on the source is the volume last set when the CA-MXS6BK was turned off. This can be quite a surprise first thing in the morning, so you might want to reset it before going to sleep.
- If the CD is the source, it starts playing from the first track.

Sleep Timer: turns the Unit off automatically at a set time

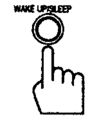
Sleep Timer

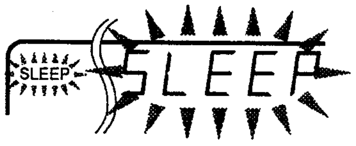
Use the sleep timer to turn the Unit off after a certain number of minutes when it is playing. Using this timer, you can fall asleep to music and know your CA-MXS6BK will turn off by itself rather than play all night.

- ❑ You can only set the Sleep Timer when the CA-MXS6BK is on and a source is playing.
- ❑ To cancel the Sleep Timer, press POWER to turn off the Unit.

To set the Sleep Timer follow this procedure:

1. With the CA-MXS6BK on and a source playing, press WAKE UP/SLEEP. The SLEEP indicator on the display will start blinking.
2. Set the length of time you want the source to play before shutting off.
   - ❑ Each time you press WAKE UP/SLEEP while the SLEEP indication is blinking, it changes the number of minutes shown on the display in this sequence:





→0:05 → 0:10 → 0:15 → 0:30 → 0:45 → 1:00 → 1:15 → 1:30 → 1:45 → 2:00 → SLEEP OFF ─┘

   - ❑ The actual time when the CA-MXS6BK will shut off shows in the right hand corner of the display where the clock time is usually displayed.
   - ❑ When the number of minutes you want is shown on the display, just wait 5 seconds until the indicator stops blinking, but remains lighted.

The Unit is now set to turn off after the number of minutes you set.

Timer Priority

Since each timer can be set independently, you may have wondered what happens if the settings overlap. Here are the priorities for each timer.

- ❑ The Wake Up Timer has priority over TIMER 1, TIMER 2, or DAILY timer. This means that if the start-time for one of the timers occurs before the wake-up time, the Unit will wait until the wake-up time to turn on.
- ❑ The Sleep Timer has priority over TIMER 1, TIMER 2, or DAILY timer. This means that if the stop-time for one of the timers occurs before the sleep time, the Unit will wait until the sleep time before turning itself off.

Checking the Remaining Time

After setting the Wake Up or Sleep Timer, you can check the time remaining until the Unit turns on (Wake Up Timer) or shuts off (Sleep Timer).

- ❑ Pressing WAKE UP/SLEEP shows you the remaining time on the display for 5 seconds. Then the display returns to the clock time display (Wake Up Timer) or the radio frequency display (Sleep Timer).

Auto Power Off: turns off your CA-MXS6BK automatically

Turning off the CA-MXS6BK Automatically

When playing either a tape or a CD, Auto Power Off will shut the Unit off when the tape or CD comes to the end. Although Auto Power Off is very useful for shutting off the CA-MXS6BK at night, you can also use it if you think you might forget to turn the Unit off when leaving the house or your room at other times of day. Turning on or off the Auto Power Off is easy, but there are a few things to know about it if a tape is playing. To use Auto Power Off:

- ❑ Press AUTO POWER OFF on the Remote.
  - If the AUTO OFF indicator in the display is on, Auto Power Off is on, and the source will automatically turn off when the tape or CD finishes.
  - If the AUTO OFF indicator is off, Auto Power Off is also off.
- ❑ Even if both tape decks are loaded, the Unit turns off when the currently playing deck finishes; however, in reverse play mode, the Unit plays the side currently playing, reverses and plays the other side, then shuts off.

Adjusting the Brightness of the Display

In the stand-by mode, you can adjust the brightness of the clock display.
Pressing TUNING/TIMER/DIMMER > makes the display brighter.
Pressing TUNING/TIMER/DIMMER < makes the display dimmer.

Singing Along

What is Vocal Masking?

When you press VOCAL MASKING, the lead vocal is reduced, and you can replace it by singing into the microphone as the music plays. No microphone is supplied with the CA-MXS6BK, so you can select your own from the many kinds available.

Singing-Along Procedure

How to Sing Along with Vocal Masking

1. Turn the MIC MIXING control all the way counterclockwise to the MIN position.
2. Attach the microphone (not supplied) by plugging it into the MIC jack in the amplifier section.
3. Start the source—CD, Tape, connected VCR, Record Player.
4. Press VOCAL MASKING—the LED will light up.
5. Now adjust the volume of the source with the main VOLUME control, and the volume of your voice with the MIC MIXING control as you sing into the microphone.

Recording a Singing-Along Session

Recording Your Singing-Along

☐ You cannot record your singing-along when the main source is a tape in deck A.

1. Put the cassette you want to record onto in deck B.
2. Press REC PAUSE—see Recording, page 17 if you need more information about tape recording.
3. Follow the above procedure "How to Sing Along with Vocal Masking."
4. Press Play Forward ▷ (or Play Reverse ◁) on deck B, and deck B will start recording the source together with your voice in place of the lead vocal.

Important information about Vocal Masking

☐ Since the radio signal is not as reliable as signals coming from a tape or CD, you may not always get satisfactory results using the radio as a source for Vocal Masking.

☐ Some tapes and CDs are better sources for singing along than others.
- Monaural sources are not suitable for Vocal Masking.
- On sources with duets, strong echoes, a chorus, or with only a few instruments, the singer's voice may not be completely reduced.
- Poorly dubbed tapes may not work well for Vocal Masking.

Recording from the Microphone

Two ways of recording with the microphone

You can use the microphone for two kinds of recording:

☐ Mixing—Sound going into the microphone is mixed with sound sent to the tape in deck B from some other source, such as the CD, or radio.

☐ Regular recording—Only sound picked up by the microphone is recorded.

Special techniques for using the microphone

Mixing

1. Put the cassette you want to record onto in deck B.
2. Connect the microphone to the MIC Jack.
3. Set deck B to recording pause mode by pressing REC PAUSE.
4. Start the source (radio, CD, and PHONO/AUX) and set the VOLUME control.
5. Adjust the microphone volume with the MIC MIXING control.
6. When you are ready to record, press Play Forward ▷ (or Play Reverse ◁) on deck B, and both sounds from the microphone and from the playing source will be recorded.

Regular Microphone Recording

1. Put the cassette you want to record onto in deck B.
2. Connect the microphone to the MIC Jack.
3. Set deck B to recording pause mode by pressing REC PAUSE.
4. Adjust the volume of the microphone with the MIC MIXING control.
5. Now when you press Play Forward ▷ (or Play Reverse ◁) on deck B, whatever sounds the microphone picks up will be recorded.

Important information for using the microphone

☐ You may have to experiment some to see just where to set the MIC MIXING control to get the best recorded sound.

☐ To prevent howling and squealing when using the microphone, adjust the MIC MIXING control and the VOLUME control, and try not to point the microphone at the speakers.

☐ When you are not using the microphone, keep the MIC MIXING control set to MIN. It is best to disconnect the microphone when you will not be using it for a while.

How to Use the Remote Control

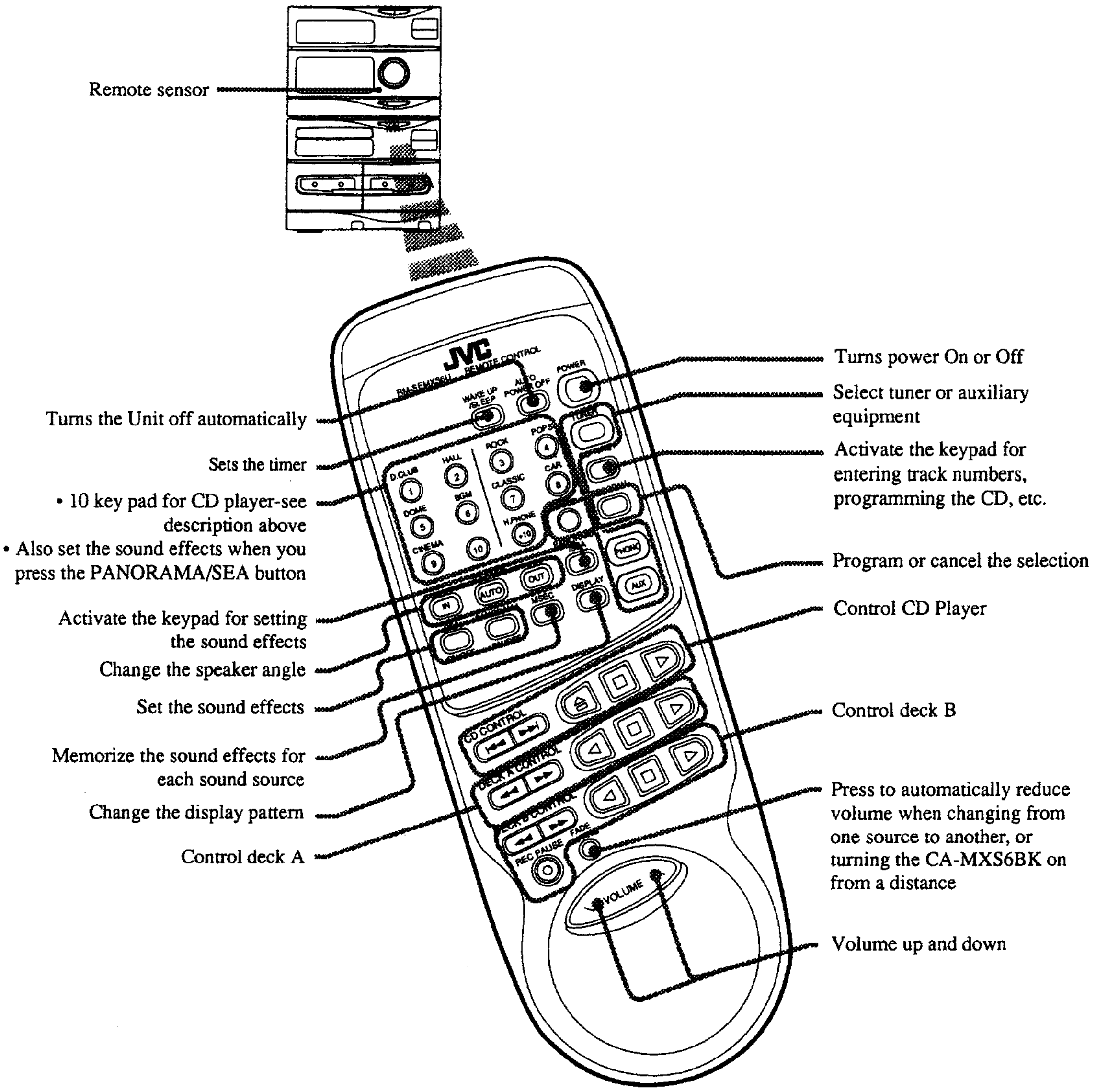
The Remote Control makes it easy to control many of the functions of the CA-MXS6BK from a distance of up to 20 feet away. You do need to point the remote sensor at the CA-MXS6BK console.

Most of the buttons on the Remote Control do just what the ones on the front of the CA-MXS6BK do, and they are explained in the manual. A few functions are available only by using the Remote Control, and those are described below.

Using the 10 Key pad

The 10 Key pad is used to specify a CD track or the number you have assigned to a preset radio station. To enter a number using the keypad follow these steps:

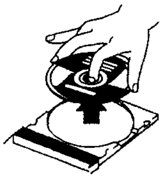
- ☐ For numbers between 1 and 10, just press the button with the number you want.
- ☐ For numbers from 11 to 20, first press the +10 key, then the one's digit of the number you want—to get 15, first press +10, then 5. For 20, press +10 and 10 .
- ☐ For numbers from 21 to 30, press the +10 key twice; then press the one's digit—to get 25, press +10 +10 and 5. For 30, press +10 +10 and 10.
- ☐ For numbers from 31 and 40, follow the same procedure, only press the +10 key three times, then the one's digit—to get 32, press +10 +10 +10 and 2.


Remote sensor
Turns the Unit off automatically
Sets the timer
• 10 key pad for CD player-see description above
• Also set the sound effects when you press the PANORAMA/SEA button
Activate the keypad for setting the sound effects
Change the speaker angle
Set the sound effects
Memorize the sound effects for each sound source
Change the display pattern
Control deck A
Turns power On or Off
Select tuner or auxiliary equipment
Activate the keypad for entering track numbers, programming the CD, etc.
Program or cancel the selection
Control CD Player
Control deck B
Press to automatically reduce volume when changing from one source to another, or turning the CA-MXS6BK on from a distance
Volume up and down
JVC
POWER
WAKE UP /SLEEP
AUTO POWER OFF
D.CLUB
HALL
ROCK
POPS
DOME
BGM
CLASSIC
CAR
CINEMA
H.PHONE
+10
IN
AUTO
OUT
DISPLAY
MEMO
PHONO
AUX
CD CONTROL
DECK A CONTROL
DECK B CONTROL
REC PAUSE
FADE
VOLUME

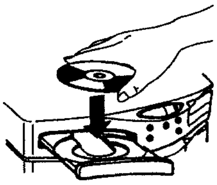
Care and Maintenance—General Notes

Compact Discs

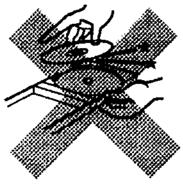
Handle your compact discs, cassette tapes, and tape deck carefully, and they will last a long time.



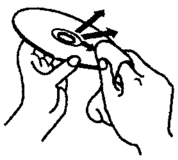
- Remove the CD from the case by holding it at the edges while pressing the center hole lightly.
- Do not touch the shiny surface of the CD, or bend the CD.



- Place the CD into the open tray with the label facing up.



- Put the CD back in its case after use to prevent warping.
- Be careful not to scratch the surface of the CD when placing it back in the case.
- Avoid exposure to direct sunlight, temperature extremes, and moisture.



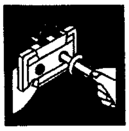
- A dirty CD may not play correctly. If a CD does become dirty, wipe it with a soft cloth in a straight line from center to edge.

CAUTION: Do not use any solvent (for example, conventional record cleaner, spray, thinner, benzine, etc.) to clean a CD.

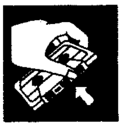
In general, you will have the best performance by keeping your tapes, CDs, and the mechanism clean.

- Store tapes and CDs in their cases, and keep them in cabinets or on shelves.
- Keep the tape deck tape carriers and the CD tray closed when not in use.

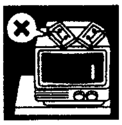
Cassette Tapes



- If the tape is loose in its cassette, take up the slack by inserting a pencil in one of the reels and rotating.
- If the tape is loose it may get stretched, cut, or caught in the cassette.



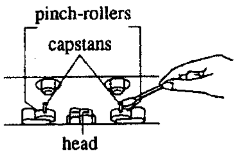
- Do not touch the tape surface.



- Do not store the tape:
  -In dusty places
  -In direct sunlight or heat
  -In moist areas
  -On a TV or speaker
  -Near a magnet

Tape Deck

- If the heads, capstans, and pinch-rollers of the tape deck become dirty, the following will occur:
  -Impaired sound quality
  -Discontinuous sound
  -Fading
  -Incomplete erasure
  -Difficulty recording
- Clean the heads, capstans, and pinch-rollers using a cotton swab moistened with alcohol.



- If the heads become magnetized, they will produce noise or loose high frequencies.
- To demagnetize the heads, turn off the system, and use a head demagnetizer (available at electronics and record shops).

Troubleshooting

- If you are having a problem with your CA-MXS6BK, check this list for a possible solution before calling for service.
- If you cannot solve the problem from the hints given here, or the Unit has been physically damaged, call a qualified person, such as your dealer, for service.

Symptom	Possible Cause	ACTION
No sound is heard.	Connections are incorrect, or loose.	Check all connections and make corrections. (See pages 3 and 4.)
Impossible to record.	Cassette record protect tabs are removed.	Cover holes on back edge of cassette with tape.
Hard to listen to broadcasts because of noise.	The antenna is disconnected.	Re-connect the antenna securely.
	The loop antenna is too close to the system.	Change the position and direction of the loop antenna.
	The feeder/wire antenna is not properly extended and positioned.	Extend feeder/wire antenna at the best reception position.
The CD sound is discontinuous.	The CD is scratched or dirty.	Clean or replace the CD.
Unable to operate the Remote.	The path between the Remote and the sensor on the Unit is blocked.	Remove the obstruction.
	The batteries are discharged.	Replace the batteries.
The CD tray cannot be operated.	The main AC power cord is not plugged in.	Plug in the AC power plug.
The CD does not play.	The CD is upside down.	Put the CD in with the label side up.
Operations are disabled.	The built in microprocessor may malfunction due to external electrical interference.	Unplug the system then plug it back in.
The cassette carrier cannot be opened.	The system was turned off because the timer was operated while the tape was running.	Turn on the system.

Specifications

Tuner/Amplifier Section

Amplifier

Output Power (IEC 268-3/DIN)

35 watts per channel, min. RMS, both channels driven, into 6 ohms at 1 kHz with no more than 0.9% total harmonic distortion.

Input Sensitivity/Impedance (1 kHz)	
PHONO	3 mV/47 kohms
AUX/VIDEO	300 mV/47 kohms
MIC	2 mV/10 kohms
Speaker terminals	
Speakers	6 ohms

Tuner

FM Tuner

Tuning Range	87.5 – 108.0 MHz
Usable Sensitivity	0.95 µV/75 ohms (10.8 dBf)
Signal-to-Noise Ratio	
(IHF-A weighted)	MONO (at 85 dBf) 80 dB STEREO (at 85 dBf) 73 dB
(DIN)	MONO 72 dB STEREO 64 dB

AM (MW/LW) Tuner

MW-Tuning Range	522 – 1,629 kHz
LW-Tuning Range	144 – 353 kHz 144 – 290 kHz (only for Italy)
Dimensions (Approx.)	245 x 183 x 343 mm (w/h/d) ($9^{11}/_{16}$ x $7^{1}/_{4}$ x $13^{9}/_{16}$ in.)
Weight (Approx.)	5.0 kg (11.1 lbs)

CD/Tape Deck Section

Tape deck

Frequency response	
METAL:	30 – 17,000 Hz
CrO₂:	30 – 16,000 Hz
Normal:	30 – 15,000 Hz
Wow and Flutter	0.09% (WRMS)/0.2% (DIN)

Compact Disc Player

Dynamic Range (1 kHz)	96 dB
Signal-to-Noise Ratio	102 dB
Wow and Flutter	Unmeasurable
Dimensions (Approx.)	245 x 183 x 295 mm (w/h/d) ($9^{11}/_{16}$ x $7^{1}/_{4}$ x $11^{5}/_{8}$ in.) (Maximum depth 394 mm ($15^{9}/_{16}$ in.) with the CD tray open)
Weight (Approx.)	4.2 kg (9.3 lbs)

Power specifications

Power Requirements	AC 240 V ∿, 50 Hz (for the U.K.) AC 230 V ∿, 50 Hz (for Europe)
Power Consumption	257 watts (for the U.K.) 118 watts (for Europe)

Supplied Accessories

FM wire antenna (only for Germany) (1)
FM feeder antenna (except for Germany) (1)
AM loop antenna (1)
Remote control (RM-SEMXS6U) (1)
Batteries R03(UM-4)/AAA(24F) (2)
Antenna adaptor (except for Germany) (1)
Speaker control cords (2)

Optional Speakers SP-MXS6BK

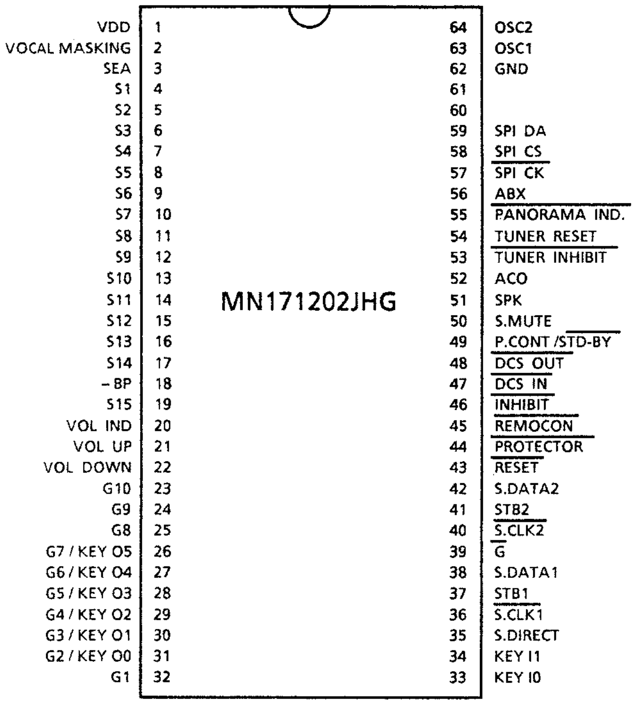
Type	3 way bass reflex type
Speakers	
Woofer	13.5 cm ($5^{3}/_{8}$ in.) cone type x 1
Midrange(Motor-driven)	7.5 cm (3 in.) cone type x 1
Tweeter	5.5 cm ($2^{3}/_{16}$ in.) cone type x 1
Power handling capacity	50 watts
Rated impedance	6 ohms
Frequency range	45 – 20,000 Hz
Sound pressure level	87 dB/w.m
Dimensions (Approx.)	204 x 366 x 245 mm (w/h/d) ($8^{1}/_{16}$ x $14^{7}/_{16}$ x $9^{11}/_{16}$ in.)
Weight (Approx.)	4.2 kg (9.3 lbs) each
Supplied Accessories	Speaker cords (2)

Design and specifications are subject to change without notice.

Description of ICs

■ MN171202JHG (IC901) : System controller

1.Terminal Layout


VDD 1
VOCAL MASKING 2
SEA 3
S1 4
S2 5
S3 6
S4 7
S5 8
S6 9
S7 10
S8 11
S9 12
S10 13
S11 14
S12 15
S13 16
S14 17
-BP 18
S15 19
VOL IND 20
VOL UP 21
VOL DOWN 22
G10 23
G9 24
G8 25
G7 / KEY O5 26
G6 / KEY O4 27
G5 / KEY O3 28
G4 / KEY O2 29
G3 / KEY O1 30
G2 / KEY O0 31
G1 32
MN171202JHG
64 OSC2
63 OSC1
62 GND
61
60
59 SPI DA
58 SPI CS
57 SPI CK
56 ABX
55 PANORAMA IND.
54 TUNER RESET
53 TUNER INHIBIT
52 ACO
51 SPK
50 S.MUTE
49 P.CONT /STD-BY
48 DCS OUT
47 DCS IN
46 INHIBIT
45 REMOCON
44 PROTECTOR
43 RESET
42 S.DATA2
41 STB2
40 S.CLK2
39 G
38 S.DATA1
37 STB1
36 S.CLK1
35 S.DIRECT
34 KEY I1
33 KEY I0

2.Key Matrix

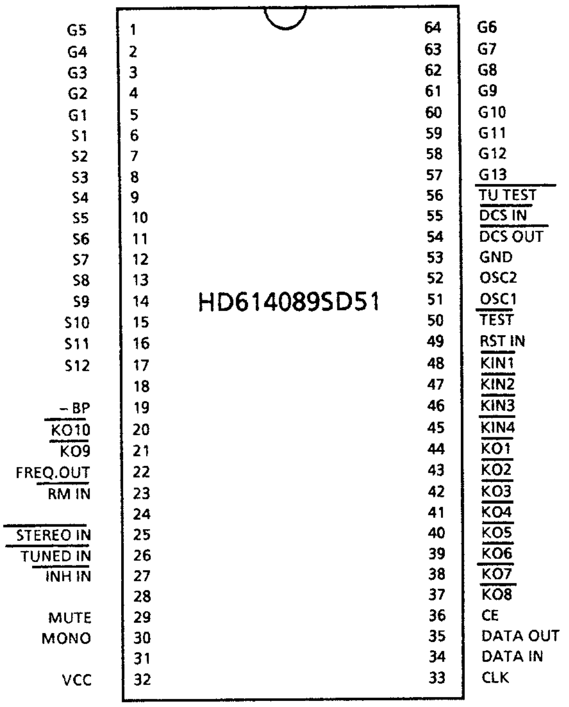
	KEY IN 0 (PIN33)	KEY IN 1 (PIN34)
KEY OUT 0 (PIN31)	POWER	VOCAL MASKING
KEY OUT 1 (PIN30)	AUX	PHONO
KEY OUT 2 (PIN29)	ACTIVE BASS EXTENSION	CINEMA /H.PHONE
KEY OUT 3 (PIN28)	HALL /POPS	DOME /CLASSIC
KEY OUT 4 (PIN27)	D.CLUB /ROCK	BGM /CAR
KEY OUT 5 (PIN26)	SEA	PANORAMA SURROUND /DEMO

3.Terminal Description

Pin NO.	Symbol	I/O	Function and Operations	Pin NO.	Symbol	I/O	Function and Operations
1	VDD	--	Power supply	33	KI0	O	Key matrix input
2	VOCAL MASK	O	Indication control for 'VOCAL MASKING'	34	KI1	O	Key matrix input
3	SEA	O	Indication control for 'SEA'	35	S.DIRECT	O	Source direct control
4	S1	O	Segment control signal	36	CLK1	O	Clock output for IC501, 512 and 513
5	S2	O	Segment control signal	37	STB1	O	Strobe signal for IC501, 512 and 513
6	S3	O	Segment control signal	38	DATA1	O	Data for IC501, 512 and 513
7	S4	O	Segment control signal	39	G	O	Enable signal for IC904
8	S5	O	Segment control signal	40	CLK2	O	Clock output for IC904
9	S6	O	Segment control signal	41	STB2	O	Strobe signal for IC904
10	S7	O	Segment control signal	42	DATA2	O	Control data for IC904
11	S8	O	Segment control signal	43	RESET	I	Reset signal input
12	S9	O	Segment control signal	44	PROTECTOR	I	Detection for protector
13	S10	O	Segment control signal	45	REMOCON	I	Remote control signal input
14	S11	O	Segment control signal	46	INH	I	Inhibit signal input
15	S12	O	Segment control signal	47	DCS IN	I	Compulink signal input
16	S13	O	Segment control signal	48	DCS OUT	O	Compulink signal output
17	S14	O	Segment control signal	49	P.CONT	O	Power control for the deck / Indicate the 'Stand-by'
18	-BP	--	Power supply for FL display	50	S.MUTE	O	Muting signal when changing the source
19	S15	O	Segment control signal	51	SPK	O	Speaker relay control signal
20	VOL IND	O	Volume indication control	52	ACO	O	Regulator control signal
21	VOL UP	O	Volume control signal	53	T.INH	O	Inhibit signal for tuner controller
22	VOL DOWN	O	Volume control signal	54	T.RESET	O	Reset signal for tuner controller
23	G10	O	Grid control signal	55	PANO.IND	O	Indication control for 'PANORAMA SURROUND'
24	G9	O	Grid control signal	56	ABX	O	ABX control signal
25	G8	O	Grid control signal	57	SPI CK	O	Clock output for IC001
26	G7/KO5	O	Grid control signal (Key matrix out)	58	SPI CS	O	Chip select signal for IC001
27	G6/KO4	O	Grid control signal (Key matrix out)	59	SPI DA	I/O	Peak level data / Control data for IC001
28	G5/KO3	O	Grid control signal (Key matrix out)	60	—	--	Connected to GND
29	G4/KO2	O	Grid control signal (Key matrix out)	61	—	--	Non connection
30	G3/KO1	O	Grid control signal (Key matrix out)	62	GND	--	GND
31	G2/KO0	O	Grid control signal (Key matrix out)	63	OSC1	--	Oscillation terminal
32	G1	O	Grid control signal	64	OSC2	--	Oscillation terminal

■ HD614089SD51 (IC201) : Tuner controller

1.Terminal Layout


HD614089SD51
G5 1
G4 2
G3 3
G2 4
G1 5
S1 6
S2 7
S3 8
S4 9
S5 10
S6 11
S7 12
S8 13
S9 14
S10 15
S11 16
S12 17
18
– BP 19
KO10 20
KO9 21
FREQ.OUT 22
RM IN 23
24
STEREO IN 25
TUNED IN 26
INH IN 27
28
MUTE 29
MONO 30
31
VCC 32
64 G6
63 G7
62 G8
61 G9
60 G10
59 G11
58 G12
57 G13
56 TU TEST
55 DCS IN
54 DCS OUT
53 GND
52 OSC2
51 OSC1
50 TEST
49 RST IN
48 KIN1
47 KIN2
46 KIN3
45 KIN4
44 KO1
43 KO2
42 KO3
41 KO4
40 KO5
39 KO6
38 KO7
37 KO8
36 CE
35 DATA OUT
34 DATA IN
33 CLK

2.Key Matrix

	KEY IN 1 (PIN48)	KEY IN 2 (PIN47)	KEY IN3 (PIN46)	KEY IN4 (PIN45)
KEY OUT 1 (PIN44)	—	TIMER1	TIMER2	DAILY
KEY OUT 2 (PIN43)	WAKE-UP / SLEEP	CLOCK ADJ	CANCEL	MEMORY
KEY OUT 3 (PIN42)	TUNING /TIMER /DIMMER UP	TUNING /TIMER /DIMMER DOWN	PRESET UP	PRESET DOWN
KEY OUT 4 (PIN41)	FM	AM	FM MODE /MUTE	PRESET SCAN
KEY OUT 7 (PIN38)	—	—	+ 10	—

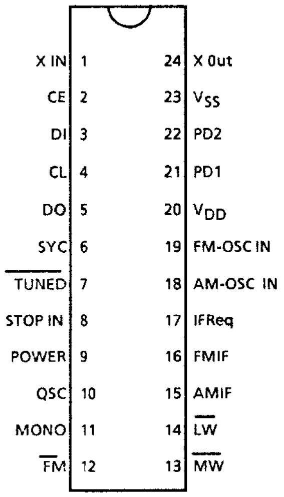
3.Terminal Description

Pin NO.	Symbol	I/O	Function and Operations	Pin NO.	Symbol	I/O	Function and Operations
1	G5	O	Grid control signal	33	CLK	O	Clock for data transmission
2	G4	O	Grid control signal	34	DATA IN	I	Data from PLL synthesizer
3	G3	O	Grid control signal	35	DATA OUT	O	Data for PLL synthesizer
4	G2	O	Grid control signal	36	CE	O	Chip enable signal output
5	G1	O	Grid control signal	37	KO8	O	Key matrix output
6	S1	O	Segment control signal	38	KO7	O	Key matrix output
7	S2	O	Segment control signal	39	KO6	--	Non connection
8	S3	O	Segment control signal	40	KO5	--	Non connection
9	S4	O	Segment control signal	41	KO4	O	Key matrix output
10	S5	O	Segment control signal	42	KO3	O	Key matrix output
11	S6	O	Segment control signal	43	KO2	O	Key matrix output
12	S7	O	Segment control signal	44	KO1	O	Key matrix output
13	S8	O	Segment control signal	45	KIN4	I	Key matrix input
14	S9	O	Segment control signal	46	KIN3	I	Key matrix input
15	S10	O	Segment control signal	47	KIN2	I	Key matrix input
16	S11	O	Segment control signal	48	KIN1	I	Key matrix input
17	S12	O	Segment control signal	49	RST IN	I	Reset signal input
18	—	--	Non connection	50	TEST	I	Test mode terminal
19	– BP	--	Power supply for FL display	51	OSC1	--	Oscillation terminal
20	KO10	--	Non connection	52	OSC2	--	Oscillation terminal
21	KO9	--	Non connection	53	GND	--	GND
22	FREQ.OUT	O	Frequency for the clock	54	DCS OUT	O	Compulink signal output
23	RM IN	I	Connected to +5V	55	DCS IN	I	Compulink signal input
24	—	--	Connected to +5V	56	TU TEST	I	Test mode terminal for the clock adjustment
25	STEREO IN	I	Indication control signal	57	G13	O	Grid control signal
26	TUNED IN	I	Indication control signal	58	G12	O	Grid control signal
27	INH IN	I	Inhibit signal input	59	G11	O	Grid control signal
28	—	--	Non connection	60	G10	O	Grid control signal
29	MUTE	O	Muting signal output	61	G9	O	Grid control signal
30	MONO	--	Non connection	62	G8	O	Grid control signal
31	—	--	Non connection	63	G7	O	Grid control signal
32	VCC	--	Power supply	64	G6	O	Grid control signal

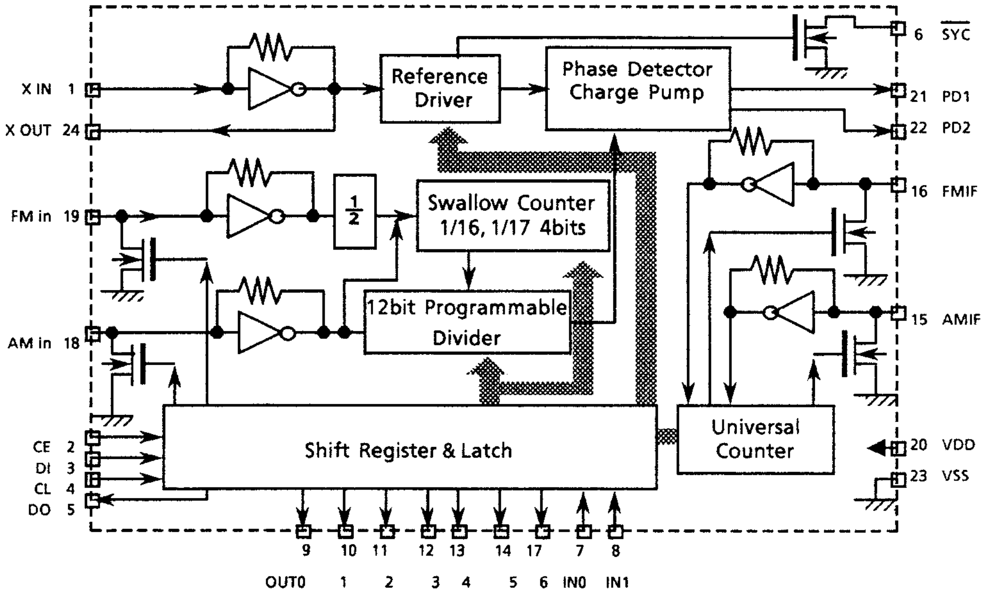
LC7218(IC102) : PLL Synthesizer

1. The main function descriptions
   (1) It makes the local oscillation frequency by the control data from IC201.
   (2) Decode the control signal and transmit the signal for receiving conditions.
   (3) For the best tuning, count the internal-frequency and transmit the data to IC201.

2. Terminal Layout


X IN 1
CE 2
DI 3
CL 4
DO 5
SYC 6
TUNED 7
STOP IN 8
POWER 9
QSC 10
MONO 11
FM 12
24 X Out
23 VSS
22 PD2
21 PD1
20 VDD
19 FM-OSC IN
18 AM-OSC IN
17 IFReq
16 FMIF
15 AMIF
14 LW
13 MW

3. Block Diagram


X IN 1
X OUT 24
FM in 19
AM in 18
CE 2
DI 3
CL 4
DO 5
Reference Driver
Phase Detector Charge Pump
1/2
Swallow Counter 1/16, 1/17 4bits
12bit Programmable Divider
Shift Register & Latch
Universal Counter
6 SYC
21 PD1
22 PD2
16 FMIF
15 AMIF
20 VDD
23 VSS
9
10
11
12
13
14
17
7
8
OUT0
1
2
3
4
5
6
IN0
IN1

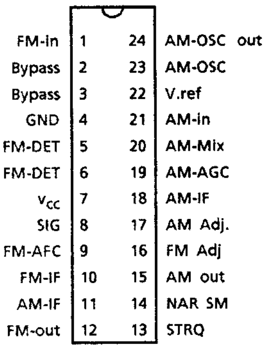
4. Terminal Description

Pin No.	Symbol	I/O	Functions and Operations
1,24	X in , X out	I/O	Crystal oscillator (7.2MHz).
2	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.
3	DI	I	Receive the control data from the controller (IC201).
4	CL	I	This clock is used to synchronize data when transmitting the data of DI and DO.
5	DO	O	Transmit the data from LC7218 to the controller which is synchronized with CL.
6	SYC	–	Not used.
7	Tuned	I	Receive the tuned signal from IC104 (LA1266A).
8	Stop in	I	Not used.
9	POWER	O	Not used.
10	QSC	O	ON mode with " H " and OFF mode with " L ".
11	MONO	O	It is "H" on FM-monaural, "L" on FM-Stereo.
12	FM	O	It is "L" on FM mode.
13	MW	O	It is "L" on MW mode.
14	LW	O	It is "L" on LW mode.
15	AM-IF	I	Universal counter input for AM-IF from IC104 (LA1266A).
16	FM-IF	I	Universal counter input for FM-IF from IC104(LA1266A).
17	IF REQ	O	Output the "IF-signal request" to IC104 when the pin-7 (tuned in) goes to "H".
18	AM OSC	I	Input the local oscillator signal of AM.
19	FM OSC	I	Input the local oscillator signal of FM.
20	V_{DD}	–	This is a terminal of power supply.
21	PD1	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
22	PD2	O	Not used.
23	Vss	–	Power supply.

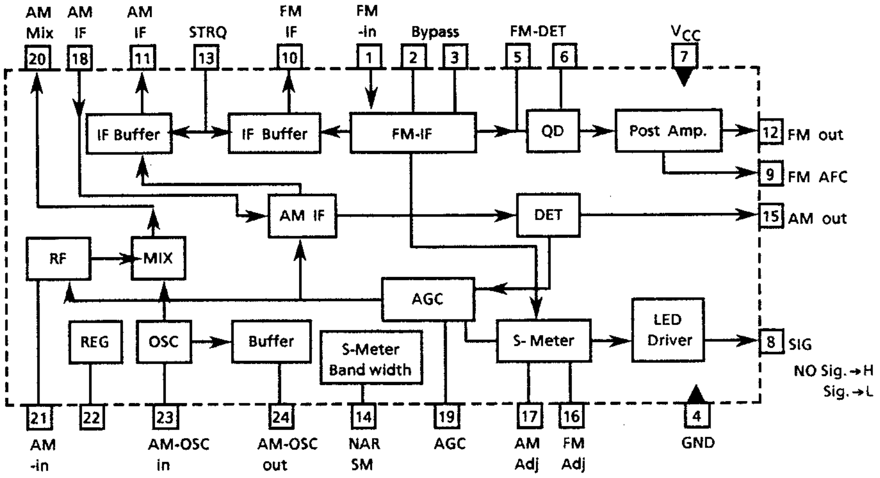
■ LA1266A (IC104) : FM AM IF AMP & detector

1. The main function descriptions
   (1) Amplify and detect of FM intermodulation frequencies.
   (2) It has local oscillator and mixer for AM, and amplify the AM-IF signal.

2. Terminal Layout


FM-in 1
Bypass 2
Bypass 3
GND 4
FM-DET 5
FM-DET 6
VCC 7
SIG 8
FM-AFC 9
FM-IF 10
AM-IF 11
FM-out 12
24 AM-OSC out
23 AM-OSC
22 V.ref
21 AM-in
20 AM-Mix
19 AM-AGC
18 AM-IF
17 AM Adj.
16 FM Adj
15 AM out
14 NAR SM
13 STRQ

3. Block Diagram


AM Mix 20
AM IF 18
AM IF 11
STRQ 13
FM IF 10
FM -in 1
Bypass 2 3
FM-DET 5 6
VCC 7
IF Buffer
IF Buffer
FM-IF
QD
Post Amp.
12 FM out
9 FM AFC
AM IF
DET
15 AM out
RF
MIX
AGC
REG
OSC
Buffer
S-Meter Band width
S- Meter
LED Driver
8 SIG
NO Sig.→H
Sig.→L
21 AM -in
22
23 AM-OSC in
24 AM-OSC out
14 NAR SM
19 AGC
17 AM Adj
16 FM Adj
4 GND

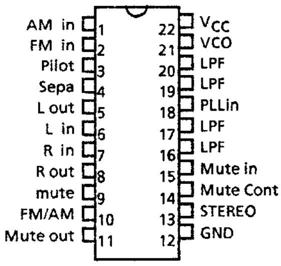
4. Terminal Description

Pin No.	Symbol	I/O	Functions and Operations
1	FM in	I	This is an input terminal of FM IF Signal.
2,3	Bypass	--	Bypass of FM IF Amp.
4	GND	--	This is the device ground terminal.
5,6	FM DET	--	FM detect transformer.
7	V_{CC}	--	This is the power supply terminal.
8	SIG	O	When the machine is tunning ,this terminal becomes "L".
9	FM AFC	O	This is an output terminal of voltage for FM - AFC(Auto frequency control).
10	FM IF	O	When the signal of IF REQ of IC102(LC7218) appear, the signal of FM IF outputt.
11	AM IF	O	When the signal of IF REQ of IC102(LC7218) appear, the signal of AM IF output.
12	FM out	O	FM composite signal output.
13	STRQ	I	The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal going to "High".
14	NAR SM	–	Control the Band-width of signal meter.
15	AM out	O	AM detection output.
16	FM Adj	--	For adjust the stop level (or mute level) of FM.
17	AM Adj	--	For adjust the stop level (or mute level) of AM.
18	AM-IF	I	Input of AM IF Signal.
19	AM-AGC	I	This is an AGC voltage Input terminal for AM.
20	AM-MIX	O	This is an output terminal for AM mixer.
21	AM-IN	I	This is an input terminal for AM RF Signal.
22	V.REF	–	Register value between pin9 and pin22 desides the frequency width of the input signal.
23	AM-OSC	--	This is a terminal of AM Local oscillation circuit.
24	AM-OSC out	O	AM Local Oscillation Signal output.

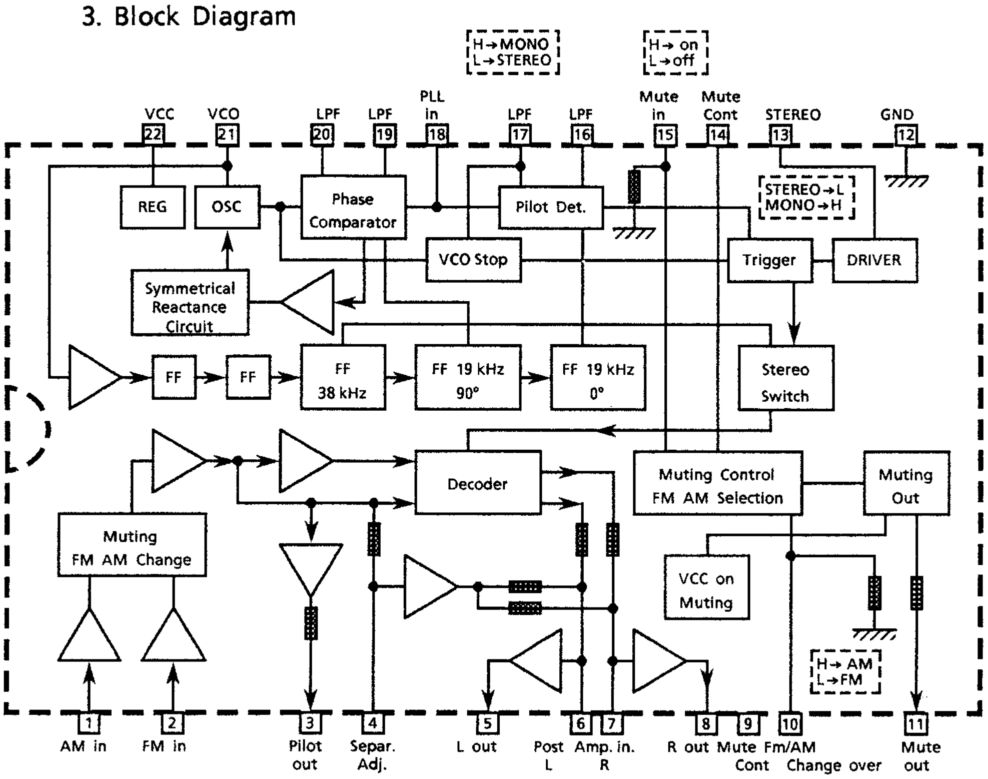
■ LA3401 (IC105) : FM MPX Detector

1. The main function descriptions
   (1) Detect the FM multiplex signal (Stereo signal).
   (2) When receiving FM stereo signal, it outputs the signal for indication.
   (3) AM / FM audio amplifier.

2. Terminal Layout


AM in 1
FM in 2
Pilot 3
Sepa 4
L out 5
L in 6
R in 7
R out 8
mute 9
FM/AM 10
Mute out 11
22 VCC
21 VCO
20 LPF
19 LPF
18 PLLin
17 LPF
16 LPF
15 Mute in
14 Mute Cont
13 STEREO
12 GND

3. Block Diagram

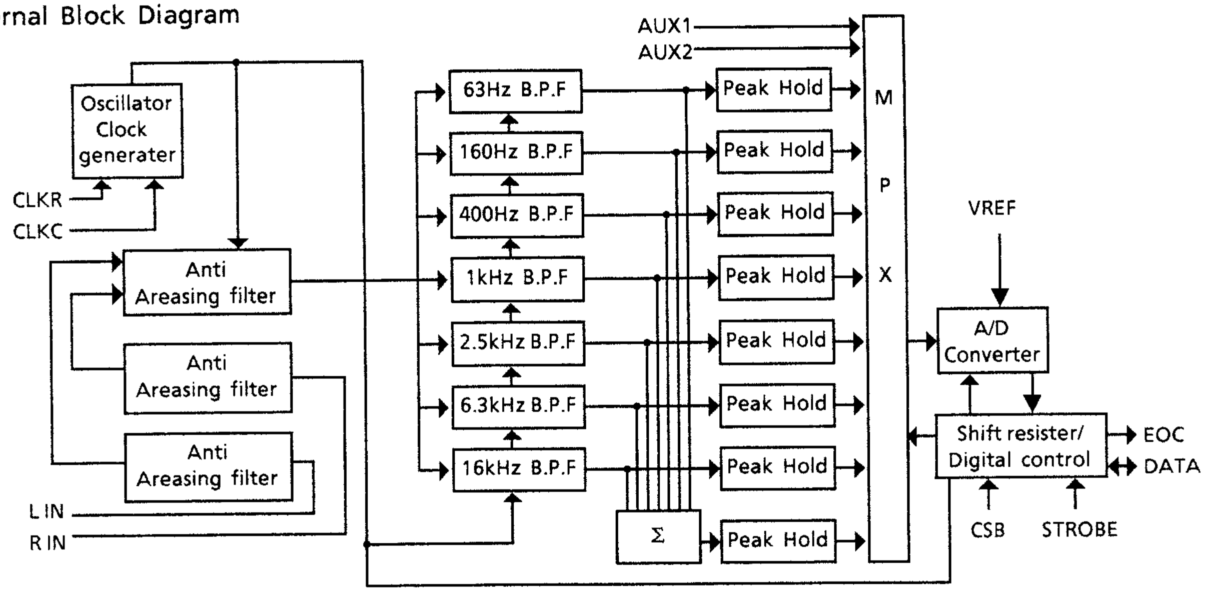

H→MONO
L→STEREO
H→ on
L→off
VCC 22
VCO 21
LPF 20
LPF 19
PLL in 18
LPF 17
LPF 16
Mute in 15
Mute Cont 14
STEREO 13
GND 12
REG
OSC
Phase Comparator
Pilot Det.
STEREO→L
MONO→H
VCO Stop
Trigger
DRIVER
Symmetrical Reactance Circuit
FF
FF
FF 38 kHz
FF 19 kHz 90°
FF 19 kHz 0°
Stereo Switch
Decoder
Muting Control FM AM Selection
Muting Out
Muting FM AM Change
VCC on Muting
H→ AM
L→FM
1 AM in
2 FM in
3 Pilot out
4 Separ. Adj.
5 L out
6 7 Post Amp. in. L R
8 R out
9 Mute Cont
10 Fm/AM Change over
11 Mute out

4. Terminal Description

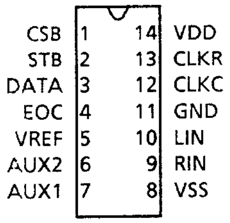
Pin No.	Symbol	I/O	Functions and Operations
1	AM in	I	This is an input terminal for AM detection signal.
2	FM in	I	This is an input terminal for FM detection signal.
3	Composite out	O	Output of the composite signal (Connect to Pin18).
4	Sepa. Adj.	–	Separation adjustment.
5	L. out	O	Left channel signal output.
6	L	I	Input terminal of the left channel post-amplifier
7	R	I	Input terminal of the right channel post-amplifier
8	R out	O	Right channel signal output
9	Mute Cont	–	The mute time is controlled by the connected capacitor when turning the power switch on.
10	FM / AM	I	Change over the FM / AM input. "H" : AM, "L" : FM
11	Mute out	—	Not used
12	GND	–	Ground terminal.
13	Stereo	O	Stereo indicator output. Stereo : "L", Mono : "H"
14	Mute Cont	–	The mute time is controlled by the connected capacitor when changing over the FM / AM .
15	Mute in	I	Mute signal input. "H" : Mute on, "L" : Mute off.
16	LPF	–	Low pass filter of pilot detector.
17	LPF	–	While this terminal goes to "H", the VCO stops.
18	PLL in	I	Composite signal input
19	LPF	–	Low-pass filter of PLL.
20	LPF	–	Low-pass filter of PLL.
21	VCO	I	Voltage controlled oscillator terminal.
22	V_{CC}	–	Power supply.

■ XR1097CP(IC001) : 7-channel graphic equalizer filter with A/D converter

1.Internal Block Diagram


AUX1
AUX2
Oscillator Clock generater
CLKR
CLKC
Anti Areasing filter
Anti Areasing filter
Anti Areasing filter
L IN
R IN
63Hz B.P.F
160Hz B.P.F
400Hz B.P.F
1kHz B.P.F
2.5kHz B.P.F
6.3kHz B.P.F
16kHz B.P.F
Σ
Peak Hold
Peak Hold
Peak Hold
Peak Hold
Peak Hold
Peak Hold
Peak Hold
Peak Hold
M
P
X
VREF
A/D Converter
Shift resister/ Digital control
EOC
DATA
CSB
STROBE

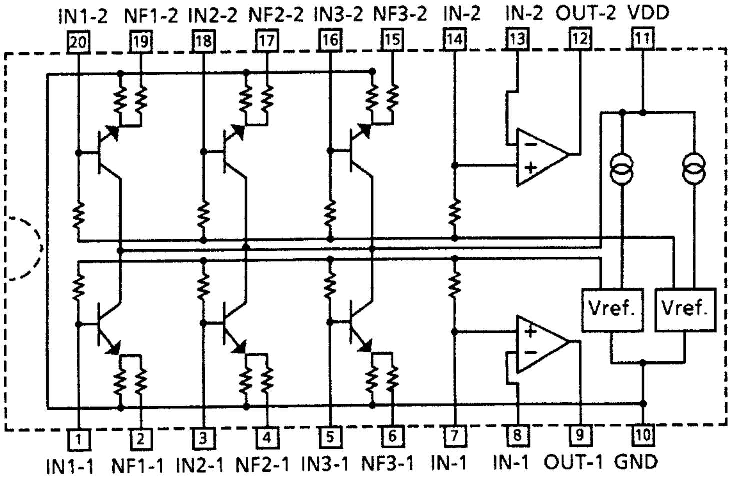
2.Terminal Layout


CSB 1
STB 2
DATA 3
EOC 4
VREF 5
AUX2 6
AUX1 7
14 VDD
13 CLKR
12 CLKC
11 GND
10 LIN
9 RIN
8 VSS

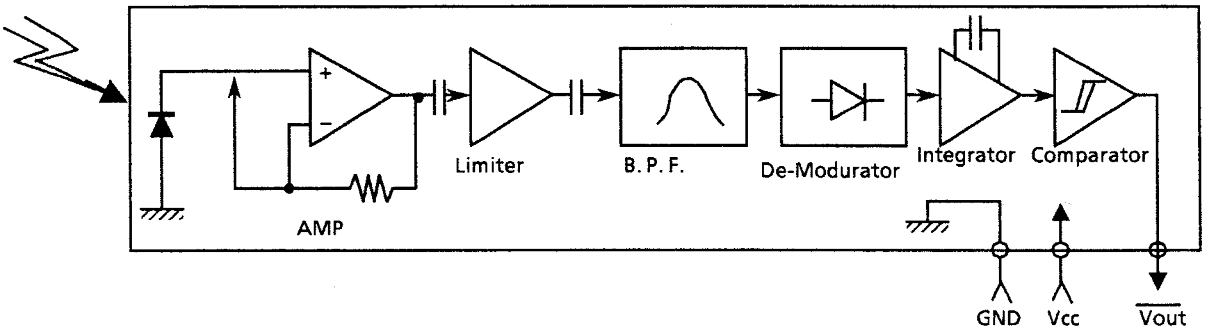
3.Terminal Description

Pin No	Symbol	I/O	Function	Pin No	Symbol	I/O	Function
1	CSB	I	Chip select	8	VSS	--	−5V
2	STB	I	Strobe signal	19	RIN	I	Sound signal input
3	DATA	I/O	Data input / output	10	LIN	I	Connected to GND
4	EOC	--	Non connection	11	GND	--	GND
5	VREF	I	A/D converter reference voltage	12	CLKC	--	A capacitor is connected
6	AUX2	I	Input the signal from the right channel speaker	13	CLKR	--	A resister is connected
7	AUX1	I	Input the signal from the left channel speaker	14	VDD	--	+5V

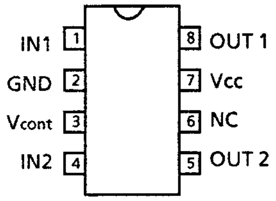
■ M5243P (IC511) : S.E.A. Graphic Equalizer


IN1-2 20
NF1-2 19
IN2-2 18
NF2-2 17
IN3-2 16
NF3-2 15
IN-2 14
IN-2 13
OUT-2 12
VDD 11
Vref.
Vref.
1 IN1-1
2 NF1-1
3 IN2-1
4 NF2-1
5 IN3-1
6 NF3-1
7 IN-1
8 IN-1
9 OUT-1
10 GND

■ SPS-420-1 (IC910) : Receiver for Remote Controller


AMP
Limiter
B. P. F.
De-Modurator
Integrator
Comparator
GND
Vcc
Vout

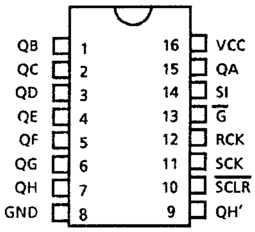
■ LB1639-CV (IC002, 003, 671) : Motor Driver


IN1 1
GND 2
Vcont 3
IN2 4
8 OUT 1
7 Vcc
6 NC
5 OUT 2

IN 1	IN 2	OUT 1	OUT 2	MOTOR
H	L	H	L	CLOCKWISE
L	H	L	H	COUNTER-CLOCKWISE
H	H	OFF	OFF	WAITING
L	L	OFF	OFF	WAITING

■ TC74HC595AP(IC904) : 8-Bit Shift Register

1. Terminal Layout


QB 1
QC 2
QD 3
QE 4
QF 5
QG 6
QH 7
GND 8
16 VCC
15 QA
14 SI
13 $\overline{G}$
12 RCK
11 SCK
10 $\overline{SCLR}$
9 QH'

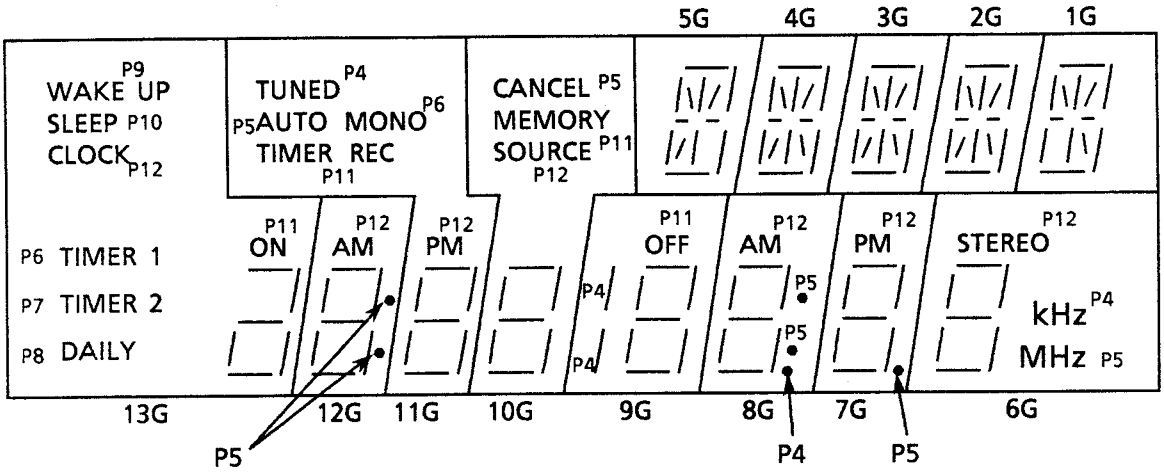
2. Function Table

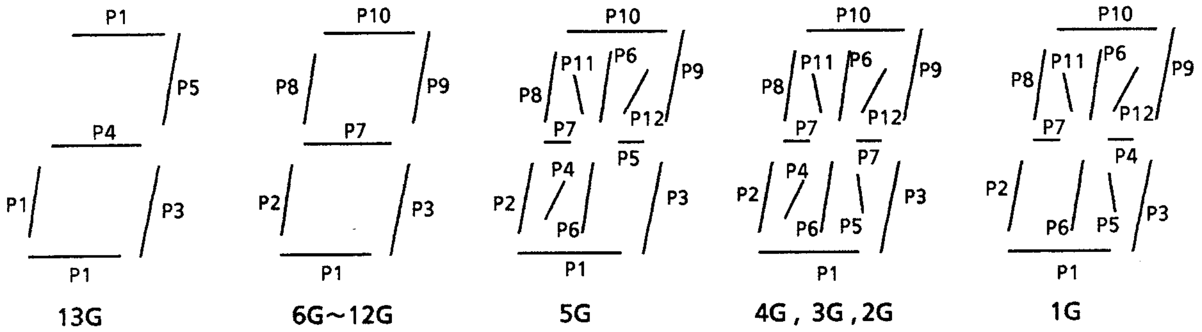
Inputs					Functions
SI	SCK	$\overline{SCLR}$	RCK	$\overline{G}$	
X	X	X	X	H	Output (QA-QH) disable.
X	X	X	X	L	Output (QA-QH) enable.
X	X	L	X	X	Shift register is cleared.
L	↑	H	X	X	Condition of shift register in initial stage is "L". In the other stages, data from the former stage is stored.
H	↑	H	X	X	Condition of shift register in initial stage is "H". In the other stages, data from the former stage is stored.
X	↓	H	X	X	Shift register does not change.
X	X	X	↑	X	Shift register data is stored in the storage register.
X	X	X	↓	X	Storage register does not change.

X : Don't care

Internal Connection of FL Display

■ ELU0001-150 (FL201)


5G
4G
3G
2G
1G
P9
WAKE UP
SLEEP P10
CLOCK P12
TUNED P4
P5 AUTO MONO P6
TIMER REC
P11
CANCEL P5
MEMORY
SOURCE P11
P12
P6 TIMER 1
P7 TIMER 2
P8 DAILY
P11 ON
P12 AM
P12 PM
P4
P4
P11 OFF
P12 AM
P5
P5
P12 PM
P12 STEREO
kHz P4
MHz P5
13G
12G
11G
10G
9G
8G
7G
6G
P5
P4
P5

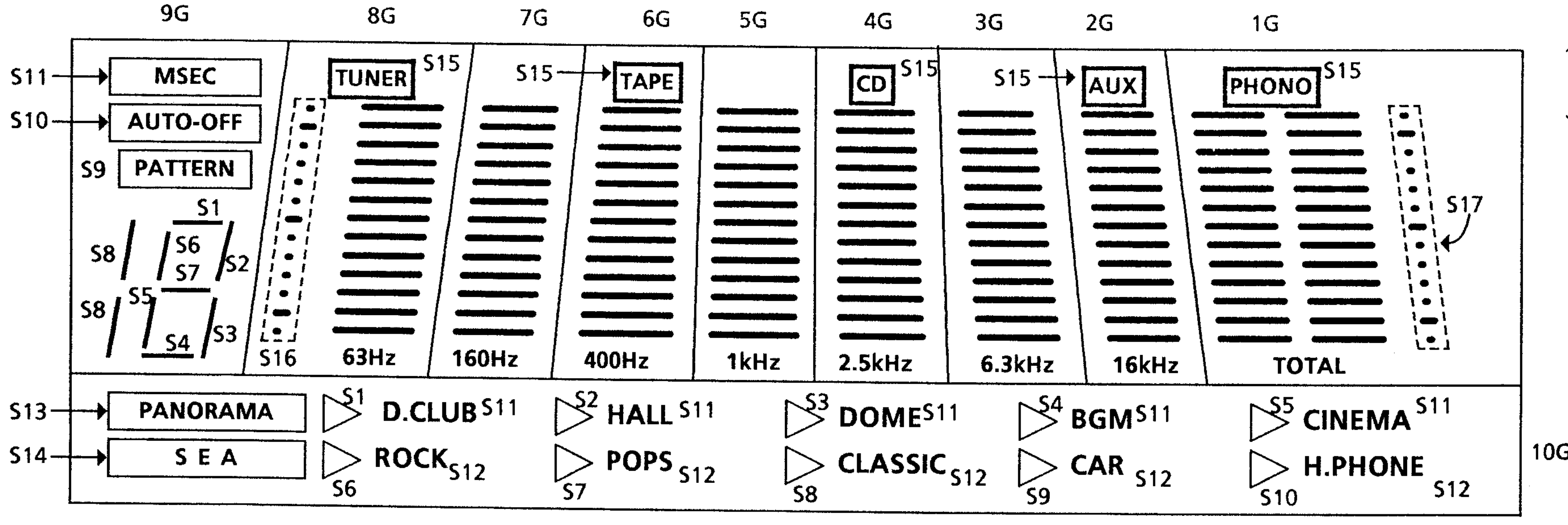

P1
P5
P4
P1
P3
P1
13G
P10
P8
P9
P7
P2
P3
P1
6G~12G
P10
P11
P6
P8
P9
P7
P12
P5
P4
P2
P3
P6
P1
5G
P10
P11
P6
P8
P9
P7
P12
P7
P4
P2
P3
P6
P5
P1
4G , 3G , 2G
P10
P11
P6
P8
P9
P7
P12
P4
P2
P3
P6
P5
P1
1G

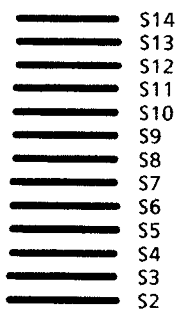
PIN CONNECTION

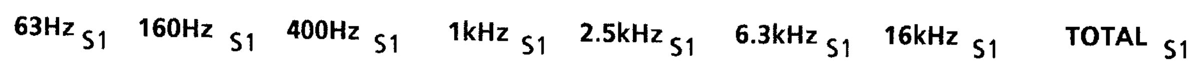
TERMINAL NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
ELECTRODE	F1	F1	NP	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G				
TERMINAL NO						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
ELECTRODE						P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	NP	F2	F2

F : Filament G : Grid P : Anode NP : No Pin

■ ELU0001-149 (FL901)


9G
8G
7G
6G
5G
4G
3G
2G
1G
10G
S11
MSEC
S10
AUTO-OFF
S9
PATTERN
S1
S2
S3
S4
S5
S6
S7
S8
S8
S16
TUNER
S15
63Hz
160Hz
S15
TAPE
400Hz
1kHz
CD
S15
2.5kHz
S15
AUX
6.3kHz
16kHz
PHONO
S15
TOTAL
S17
S13
PANORAMA
S14
S E A
S1
D.CLUB S11
ROCK S12
S6
S2
HALL S11
POPS S12
S7
S3
DOME S11
CLASSIC S12
S8
S4
BGM S11
CAR S12
S9
S5
CINEMA S11
H.PHONE S12
S10


S14
S13
S12
S11
S10
S9
S8
S7
S6
S5
S4
S3
S2


63Hz S1
160Hz S1
400Hz S1
1kHz S1
2.5kHz S1
6.3kHz S1
16kHz S1
TOTAL S1

Pin Connection

TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
ELECTRODE	F1	F1	F1	NP	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	
TERMINAL NO.		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
ELECTRODE		S16	S17	NP	NP	NP	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	F2	F2	F2

Notes F : Filament G : Grid S : Segment NP : No PIN

Disassembly Procedures

■ Removing the metal cover

1. Remove the 6 screws Ⓐ fastening the both sides and back of the metal cover to remove the cover.

■ Removing the front panel assembly

1. Remove the metal cover.
2. Disconnect the connectors J702, BC701, JA901 and P671.
3. Remove the screw Ⓑ.
4. Release the 3 hooks to remove the assembly.

■ Removing the rear panel

1. Remove the metal cover.
2. Remove the 2 screws Ⓓ in the broken line to remove the heat sink cover (Figure 3).
3. Remove the other screws Ⓓ.
4. Release the 2 hooks to remove the rear panel.

■ Removing the main circuit board

1. Remove the metal cover.
2. Remove the rear panel.
3. Remove the source selector & sea circuit board.
4. Remove the 3 screws Ⓒ fixing the main circuit board to remove the circuit board.
   (If necessary, remove the circuit boards on the main circuit board.)

■ Removing the display circuit board

1. Remove the front panel assembly.
2. Remove the mic mixing knob.
3. Remove the 1 screw Ⓔ fixing the mic mixing circuit board to remove the mic mixing circuit board.
4. Remove the other screws Ⓔ to remove the circuit board.
   (Take care not to damage the pins of JA902 when disconnecting it.)

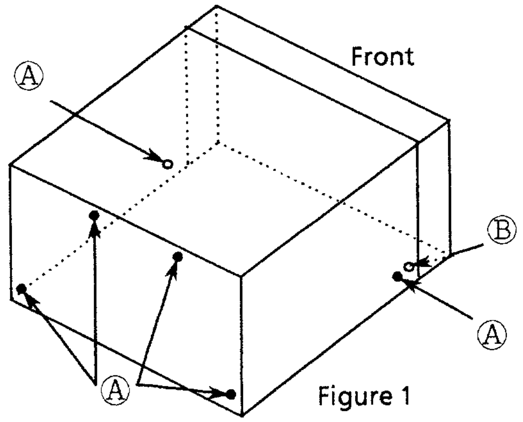


Figure 1

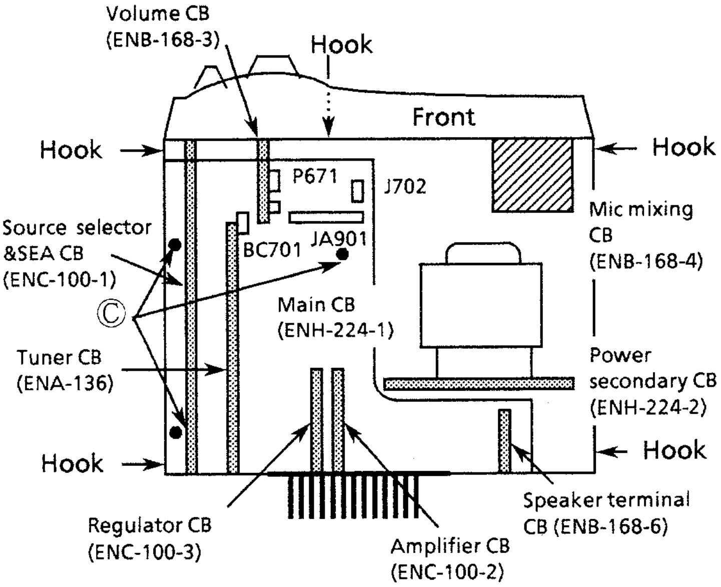

Volume CB
(ENB-168-3)
Hook
Front
Hook
Hook
P671
J702
Mic mixing
CB
(ENB-168-4)
Source selector
&SEA CB
(ENC-100-1)
BC701
JA901
Main CB
(ENH-224-1)
Ⓒ
Tuner CB
(ENA-136)
Power
secondary CB
(ENH-224-2)
Hook
Hook
Regulator CB
(ENC-100-3)
Amplifier CB
(ENC-100-2)
Speaker terminal
CB (ENB-168-6)

Figure 2 Top view

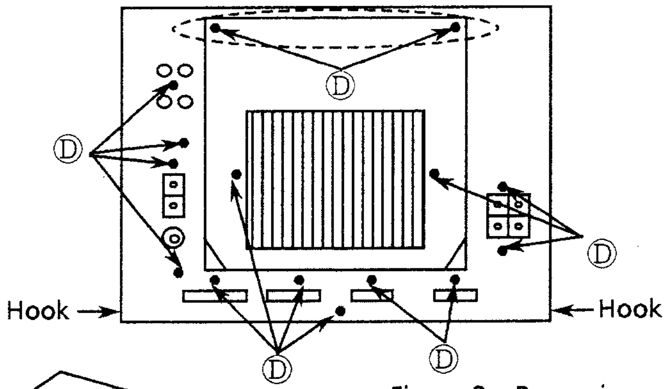


Figure 3 Rear view

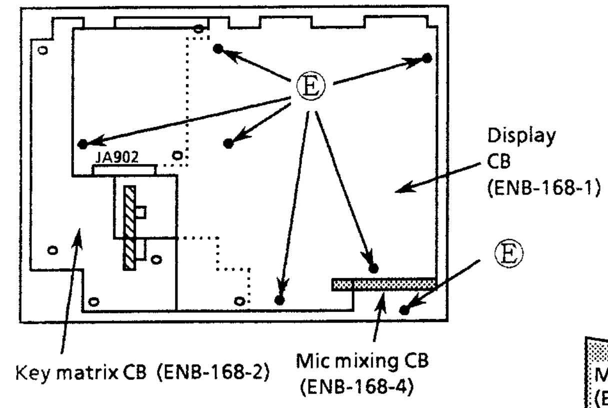

Ⓔ
JA902
Display
CB
(ENB-168-1)
Ⓔ
Key matrix CB (ENB-168-2)
Mic mixing CB
(ENB-168-4)

Figure 4 Behind the front panel assembly

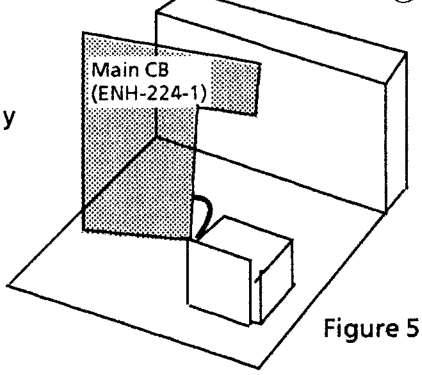
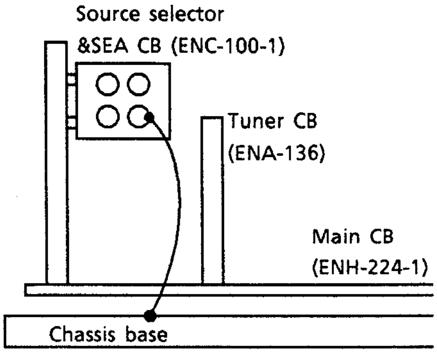
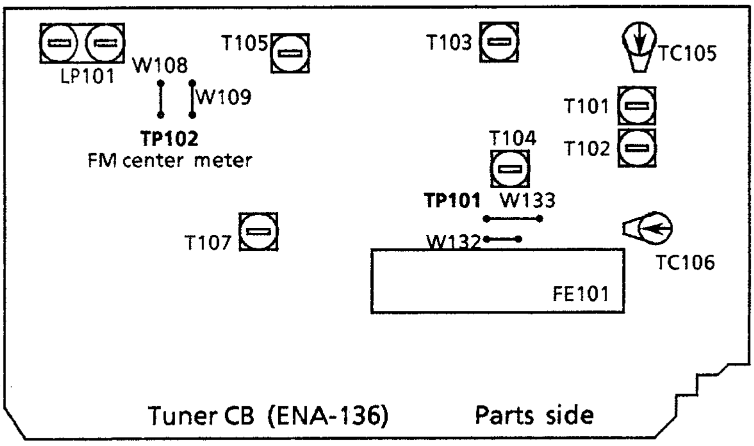

Main CB
(ENH-224-1)

Figure 5 When checking

Adjustment Procedures

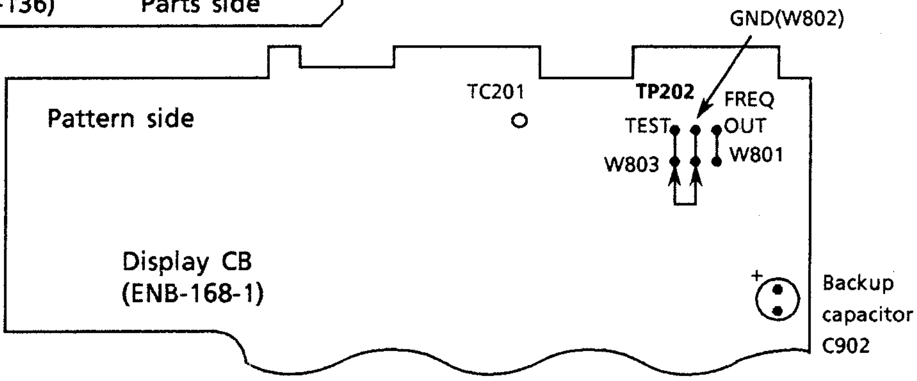
Note :
The groung of the tuner circuit board is connected to the main circuit board through the chassis base and the rear panel.
When servicing the tuner circuit board without the rear panel, connect the chassis base and the ground of the AUX input terminal.


Source selector
&SEA CB (ENC-100-1)
Tuner CB
(ENA-136)
Main CB
(ENH-224-1)
Chassis base


LP101
W108
T105
W109
TP102
FM center meter
T103
TC105
T101
T104
T102
TP101
W133
T107
W132
TC106
FE101
Tuner CB (ENA-136)
Parts side

Clock Adjustment

1. After connecting W803 and W802 with some wire as shown in the figure below, connect ac power cord into ac outlet.
2. Confirm that the display is off and remove the wire.
3. Connect a frequency counter to W801 and W802.
4. Adjust TC201 so that the frequency becomes 34952.5±0.15Hz.


GND(W802)
Pattern side
TC201
TP202
FREQ
TEST
OUT
W801
W803
Display CB
(ENB-168-1)
+
Backup
capacitor
C902

(1) Tuning voltage
Confirm the voltages at TP101 is within the standard values shown in the table below. If the voltages are not satisfied, replace FE101 for FM, adjust T103 for MW and adjust T104 for LW.

FM Tuning voltage (Unit : V)

Area	Frequency			
	64.0MHz	74.0MHz	87.5MHz	108MHz
East Europe	—	—	—	—
the U.K., Continental Europe, U.S.A., Canada, Australia, Universal	—	—	1.6±1.0 (V)	8.0±2.0 (V)

AM Tuning voltage (Unit : V)

Area	Frequency (MW)							Frequency (LW)		
	522KHz	530KHz	531KHz	1600KHz	1602KHz	1629KHz	1710KHz	144kHz	290kHz	353kHz
Italy	0.9±0.2	—	—	—	—	7.5±0.8	—	0.8±0.4	5.7±0.6	—
the U.K., Continental Europe	0.9±0.2	—	—	—	—	7.5±0.8	—	0.8±0.4	—	8.0±0.9
U.S.A., Canada	—	0.9±0.2	—	—	—	—	8.0±0.8	—	—	—
Australia	0.9±0.2	—	—	—	—	7.5±0.8	—	—	—	—
Universal (Channel space9kHz)	—	—	1.0±0.2	—	7.2±0.7	—	—	—	—	—
Universal (Channel space10kHz)	—	0.9±0.2	—	7.2±0.7	—	—	—	—	—	—

(2) FM center meter

Receive a broadcast by using the function of 'AUTO STOP'.
Adjust T105 (detector coil) so that the voltage at TP102 becomes 0±1.5mV.

(3) MW Tracking

Adjust T101 (antenna coil) to obtain the best receiving sensitivity on 600kHz or 603kHz.
Adjust TC105 (antenna trimmer) to obtain the best receiving sensitivity on 1400kHz or 1404kHz.

(4) LW Tracking

Adjust T102 (antenna coil) to obtain the best receiving sensitivity on 164kHz.
Adjust TC106 (antenna trimmer) to obtain the best receiving sensitivity on 353kHz or 245kHz

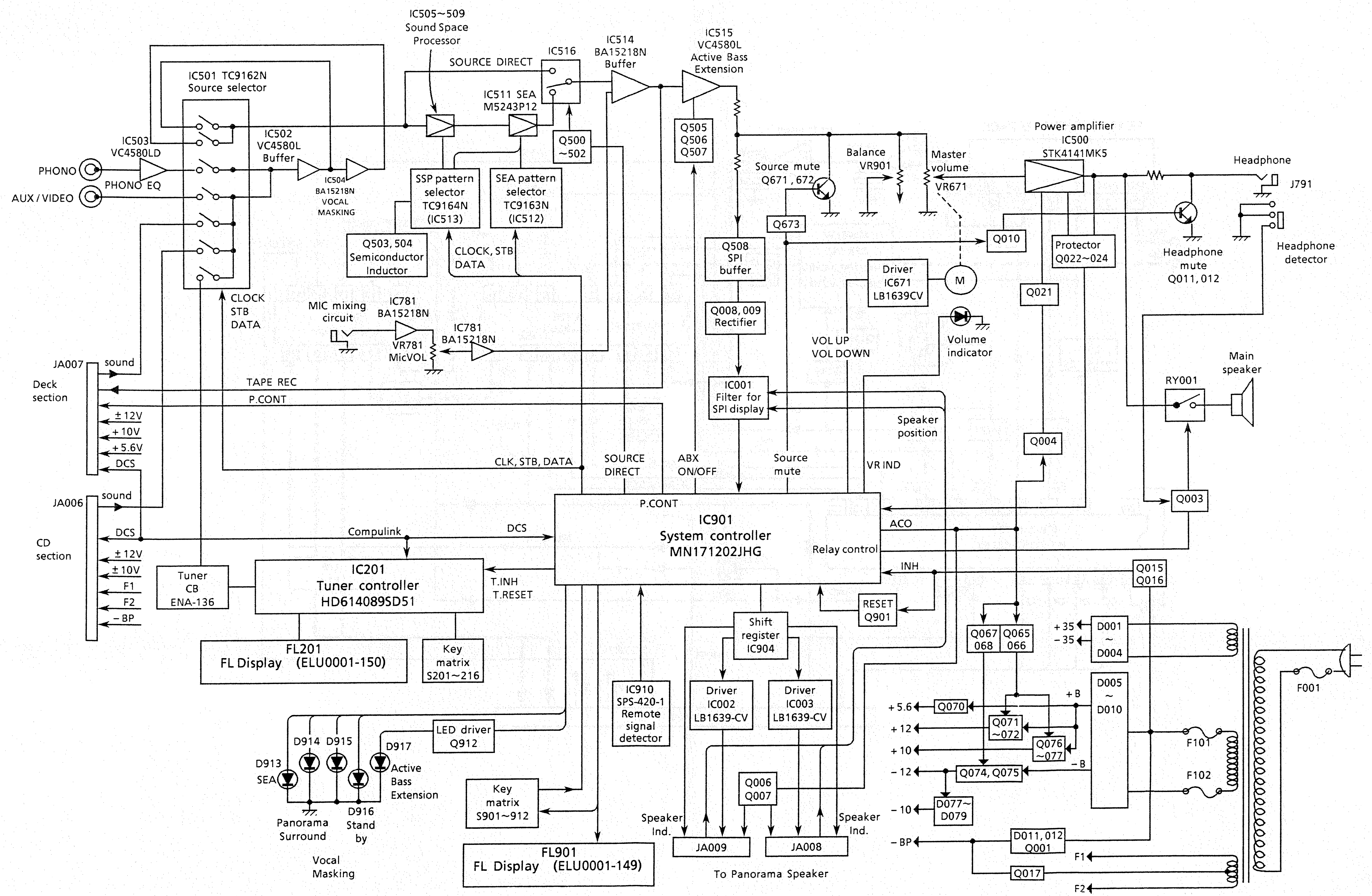
JVC
VICTOR COMPANY OF JAPAN, LIMITED
AUDIO PRODUCTS DIVISION, 1644, Shimotsuruma, Yamato-shi, Kanagawa-ken, 242, JAPAN

(No. 20415)

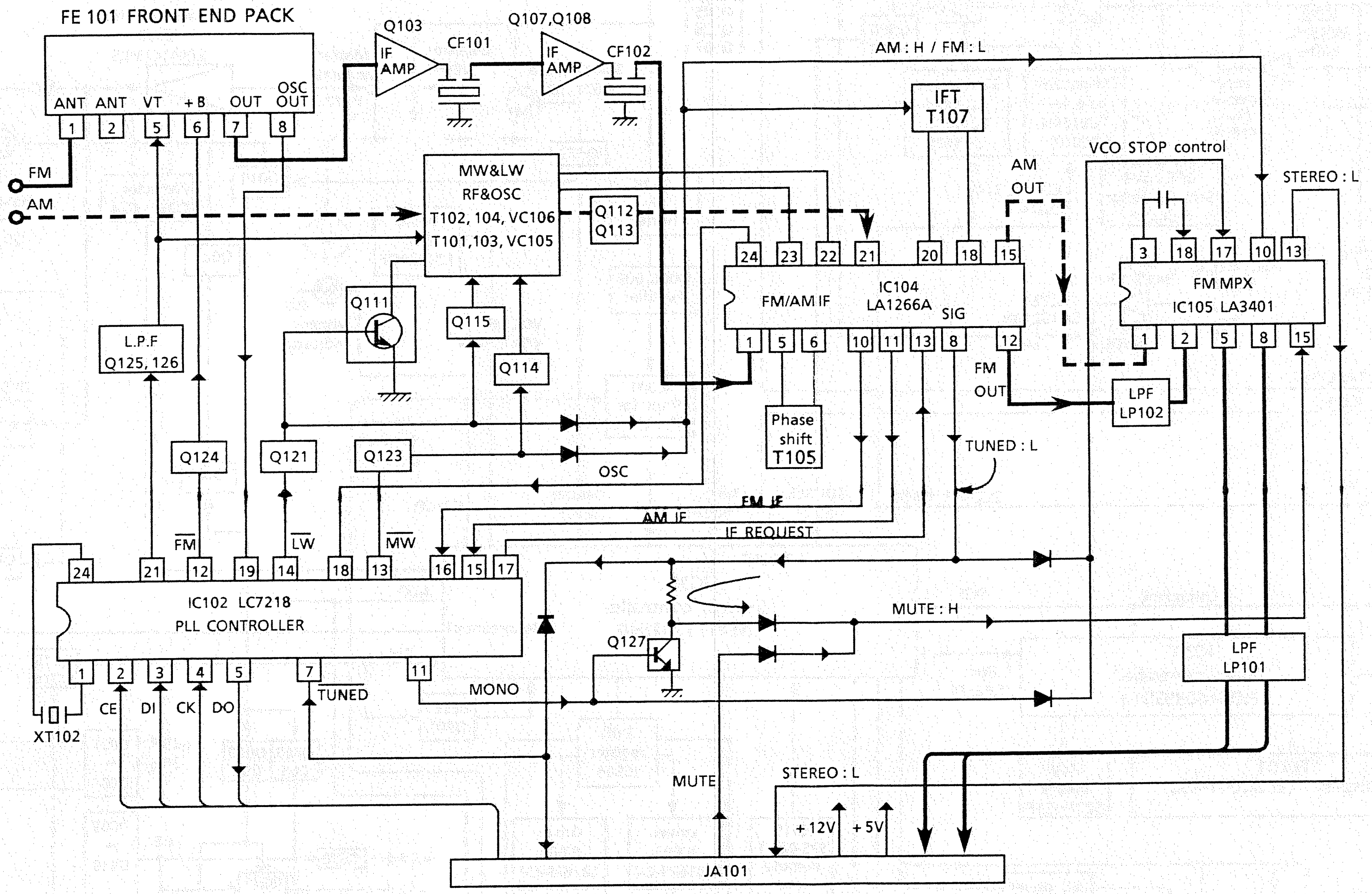
Printed in Japan
9303 (S)

Block Diagrams

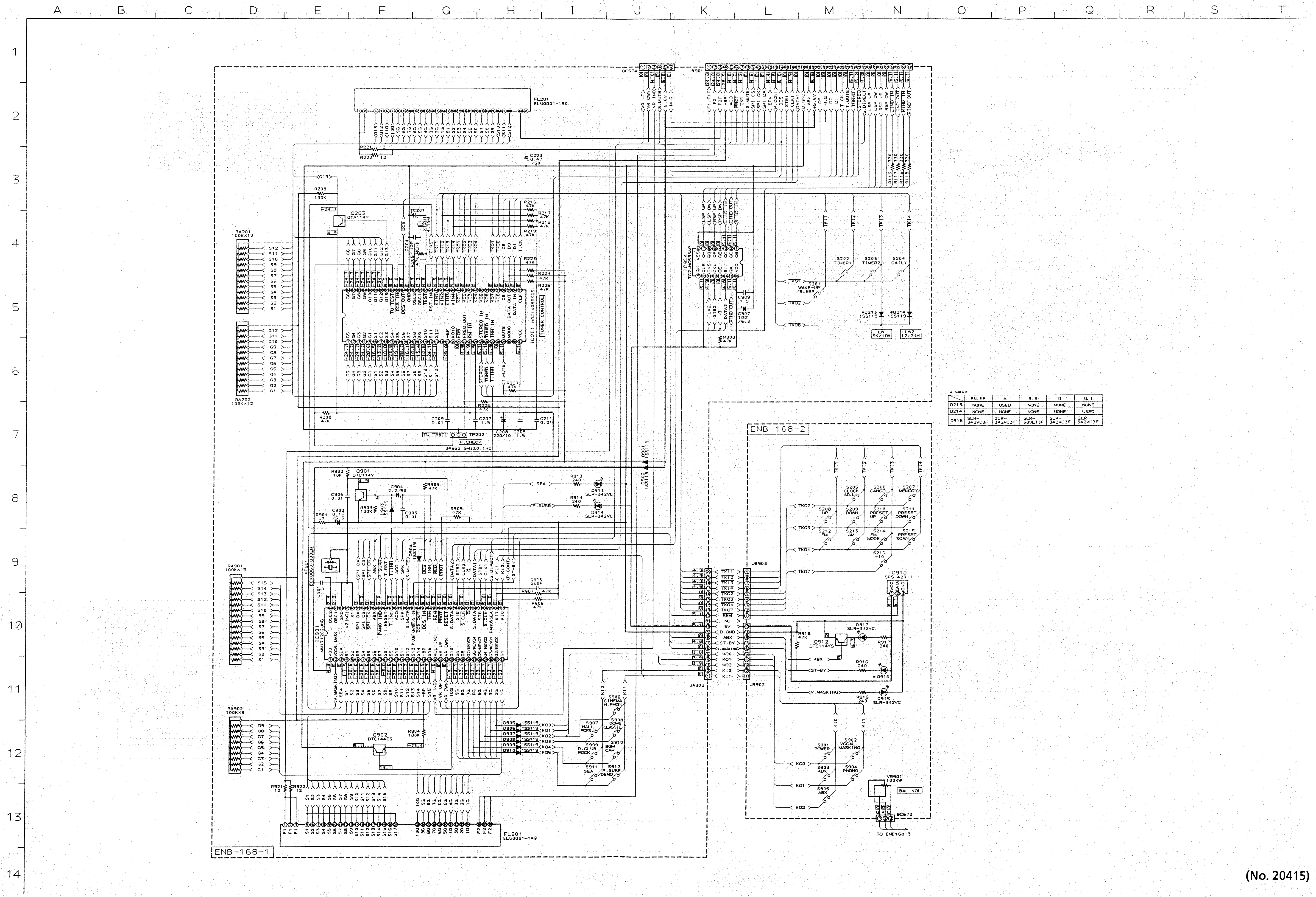
■ System


IC505~509
Sound Space
Processor
IC516
IC514
BA15218N
Buffer
IC515
VC4580L
Active Bass
Extension
SOURCE DIRECT
IC501 TC9162N
Source selector
IC511 SEA
M5243P12
Q500
~502
Q505
Q506
Q507
IC503
VC4580LD
IC502
VC4580L
Buffer
PHONO
AUX / VIDEO
PHONO EQ
IC504
BA15218N
VOCAL
MASKING
SSP pattern
selector
TC9164N
(IC513)
SEA pattern
selector
TC9163N
(IC512)
Q503, 504
Semiconductor
Inductor
CLOCK, STB
DATA
CLOCK
STB
DATA
MIC mixing
circuit
IC781
BA15218N
VR781
MicVOL
IC781
BA15218N
Source mute
Q671, 672
Balance
VR901
Master
volume
VR671
Power amplifier
IC500
STK4141MK5
Headphone
J791
Q673
Q508
SPI
buffer
Driver
IC671
LB1639CV
M
Q010
Protector
Q022~024
Headphone
mute
Q011, 012
Headphone
detector
Q008, 009
Rectifier
Q021
Volume
indicator
VOL UP
VOL DOWN
Main
speaker
RY001
JA007
Deck
section
sound
TAPE REC
P.CONT
±12V
+10V
+5.6V
DCS
IC001
Filter for
SPI display
Speaker
position
Q004
CLK, STB, DATA
SOURCE
DIRECT
ABX
ON/OFF
Source
mute
VR IND
JA006
sound
CD
section
DCS
±12V
±10V
F1
F2
−BP
Compulink
DCS
P.CONT
IC901
System controller
MN171202JHG
ACO
Relay control
Q003
INH
Q015
Q016
Tuner
CB
ENA-136
IC201
Tuner controller
HD614089SD51
T.INH
T.RESET
RESET
Q901
FL201
FL Display (ELU0001-150)
Key
matrix
S201~216
Shift
register
IC904
Q067
068
Q065
066
+35
−35
D001
~
D004
F001
IC910
SPS-420-1
Remote
signal
detector
Driver
IC002
LB1639-CV
Driver
IC003
LB1639-CV
D005
~
D010
+B
+5.6
Q070
+12
+10
Q071
~072
Q076
~077
−B
F101
F102
−12
Q074, Q075
−10
D077~
D079
LED driver
Q912
D914
D915
D917
D913
SEA
Active
Bass
Extension
Panorama
Surround
D916
Stand
by
Vocal
Masking
Key
matrix
S901~912
FL901
FL Display (ELU0001-149)
Q006
Q007
Speaker
Ind.
Speaker
Ind.
JA009
JA008
To Panorama Speaker
−BP
D011, 012
Q001
F1
Q017
F2

■ Tuner


FE 101 FRONT END PACK
ANT
ANT
VT
+B
OUT
OSC OUT
1
2
5
6
7
8
FM
AM
Q103
IF AMP
CF101
Q107,Q108
IF AMP
CF102
AM : H / FM : L
IFT T107
MW&LW RF&OSC
T102, 104, VC106
T101,103, VC105
Q112 Q113
AM OUT
VCO STOP control
STEREO : L
IC104 LA1266A
FM/AM IF
SIG
24
23
22
21
20
18
15
1
5
6
10
11
13
8
12
FM MPX
IC105 LA3401
3
18
17
10
13
1
2
5
8
15
Q111
Q115
Q114
L.P.F Q125, 126
Q124
Q121
Q123
OSC
Phase shift T105
FM OUT
LPF LP102
TUNED : L
FM IF
AM IF
IF REQUEST
FM
LW
MW
IC102 LC7218
PLL CONTROLLER
24
21
12
19
14
18
13
16
15
17
1
2
3
4
5
7
11
XT102
CE
DI
CK
DO
TUNED
MONO
MUTE : H
Q127
LPF LP101
MUTE
STEREO : L
+12V
+5V
JA101

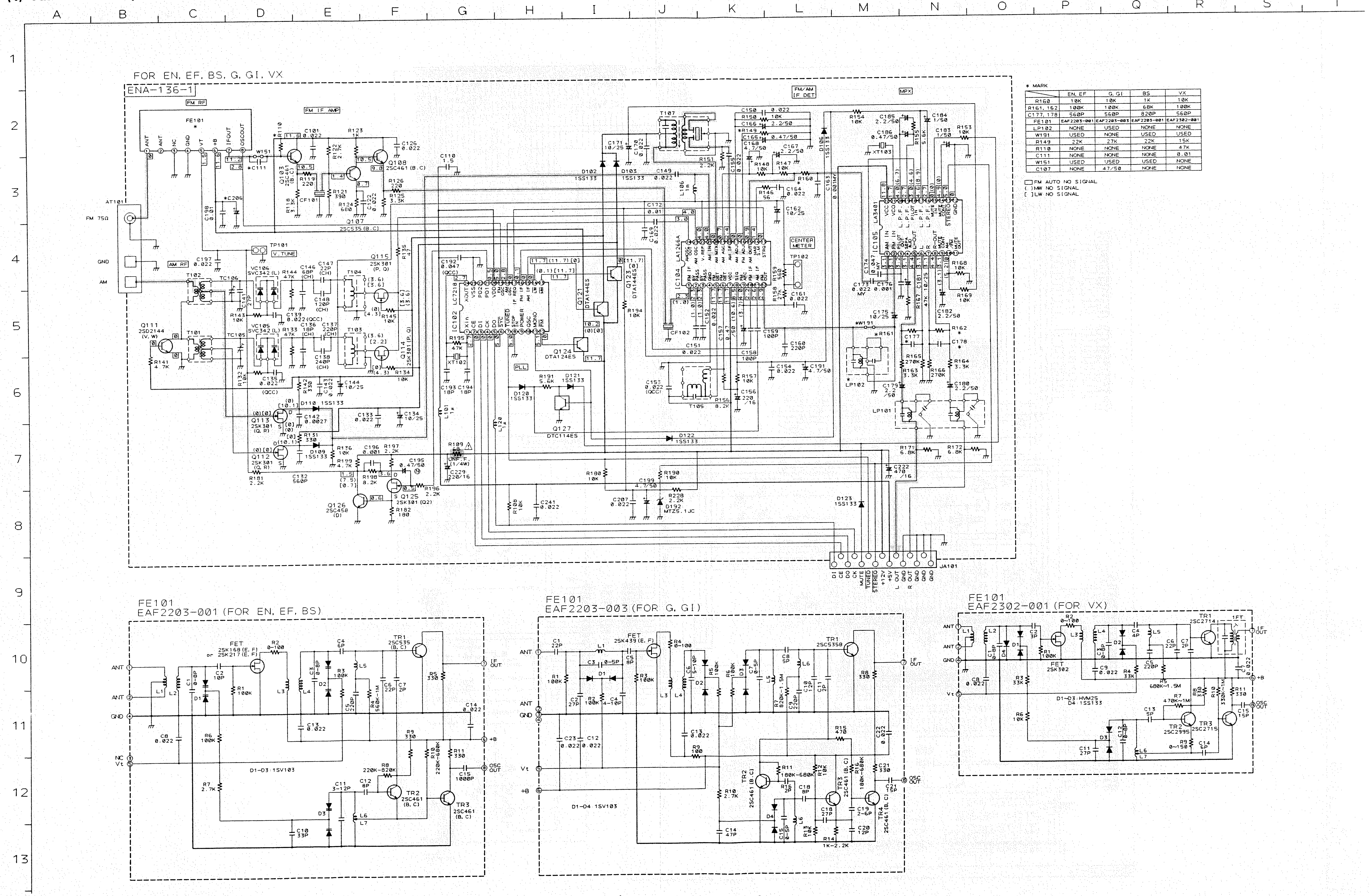
(3) System Control & Key Matrix Section


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
1
2
3
4
5
6
7
8
9
10
11
12
13
14
FL201 ELU0001-150
IC201 HD614089SD51
TIMER CONTROL
Q203 DTA114Y
TC201
RA201 100K×12
RA202 100K×12
TP202
TU TEST
F.CHECK
34952 5Hz±0.1Hz
IC904
IC901
XT901
Q901 DTC114Y
Q902 DTC144ES
RA901 100K×15
RA902 100K×9
FL901 ELU0001-149
ENB-168-1
ENB-168-2
BC674
JB901
JA902
JB902
JB903
IC910 SPS-420-1
Q912 DTC114YS
D913 SLR-342VC
D914 SLR-342VC
D915 SLR-342VC
D917 SLR-342VC
D916
S201 WAKE-UP /SLEEP
S202 TIMER1
S203 TIMER2
S204 DAILY
S205 CLOCK ADJ
S206 CANCEL
S207 MEMORY
S208 UP
S209 DOWN
S210 PRESET UP
S211 PRESET DOWN
S212 FM
S213 AM
S214 FM MODE
S215 PRESET SCAN
S216 +10
S901 POWER
S902 VOCAL MASKING
S903 AUX
S904 PHONO
S905 ABX
S906 CINEMA H.PHON
S907 HALL POPS
S908 DOME CLASSIC
S909 D.CLUB ROCK
S910 BGM CAR
S911 SEA
S912 P.SURR DEMO
VR901 100KW
BAL.VOL
BC672
TO ENB168-3
LW 9K/10K
LW2 12/24H

* MARK

	EN, EF	A	B, S	G	G, I
D213	NONE	USED	NONE	NONE	NONE
D214	NONE	NONE	NONE	NONE	USED
D916	SLR-342VC3F	SLR-342VC3F	SLR-580LT3F	SLR-342VC3F	SLR-342VC3F

(4) Tuner Section (with LW)

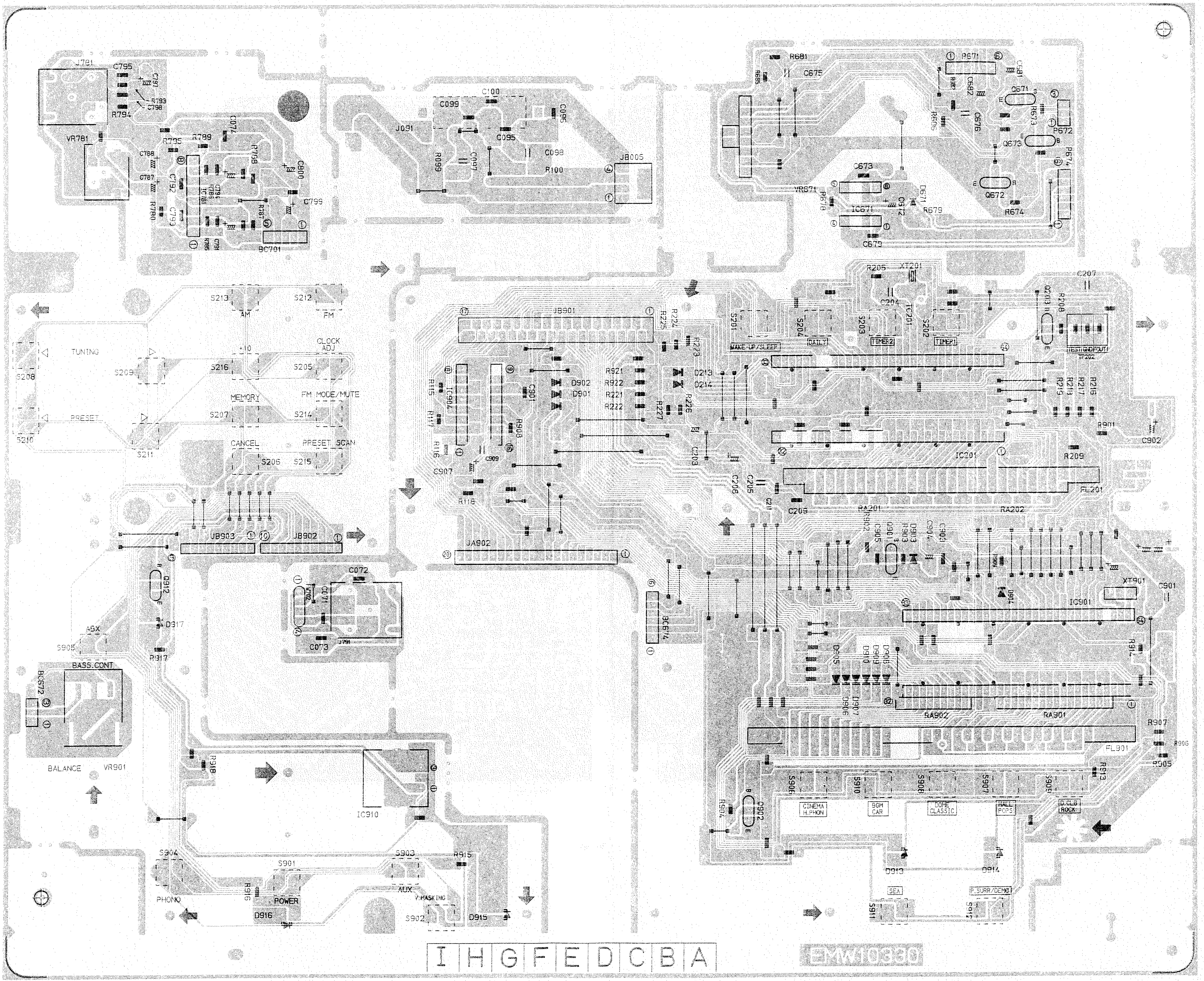

A B C D E F G H I J K L M N O P Q R S T
1 2 3 4 5 6 7 8 9 10 11 12 13
FOR EN, EF, BS, G, GI, VX
ENA-136-1
FM RF
FM IF AMP
FM/AM IF DET
MPX
AM RF
PLL
CENTER METER
V. TUNE
FE101
AT101
FM 75Ω
GND
AM
ANT ANT NC GND VT +B IFOUT OSCOUT
W151
Q103 2SC461 (B, C)
Q108 2SC461 (B, C)
Q107 2SC535 (B, C)
CF101
T107
T105
Q115 2SK301 (P, Q)
Q114 2SK301 (P, Q)
Q111 2SD2144 (V, W)
Q113 2SK301 (Q, R)
Q112 2SK301 (Q, R)
Q125 2SK301 (Q2)
Q126 2SC458 (D)
Q121 DTA144ES
Q123 DTA144ES
Q124 DTA124ES
Q127 DTC114ES
IC102 LC7218
IC104 LA1266A
IC105 LA3401
XT102
XT103
VC106 SVC342 (L)
VC105 SVC342 (L)
T101 T102 T103 T104
TC105 TC106
D102 1SS133
D103 1SS133
D106 1SS133
D109 1SS133
D110 1SS133
D120 1SS133
D121 1SS133
D122 1SS133
D123 1SS133
D192 MTZ5.1JC
CF102
LP101
LP102
TP101
TP102
JA101
DI CE DO CK MUTE TUNED STEREO +12V +5V L OUT R OUT GND GND GND
FE101 EAF2203-001 (FOR EN, EF, BS)
FET 2SK168 (E, F) or 2SK217 (E, F)
TR1 2SC535 (B, C)
TR2 2SC461 (B, C)
TR3 2SC461 (B, C)
D1-D3: 1SV103
IF OUT
OSC OUT
FE101 EAF2203-003 (FOR G, GI)
FET 2SK439 (E, F)
TR1 2SC5358
TR2 2SC461 (B, C)
TR3 2SC461 (B, C)
TR4 2SC461 (B, C)
D1-D4 1SV103
FE101 EAF2302-001 (FOR VX)
TR1 2SC2714
TR2 2SC2995
TR3 2SC2715
FET 2SK302
D1-D3: HVM25
D4: 1SS133

* MARK

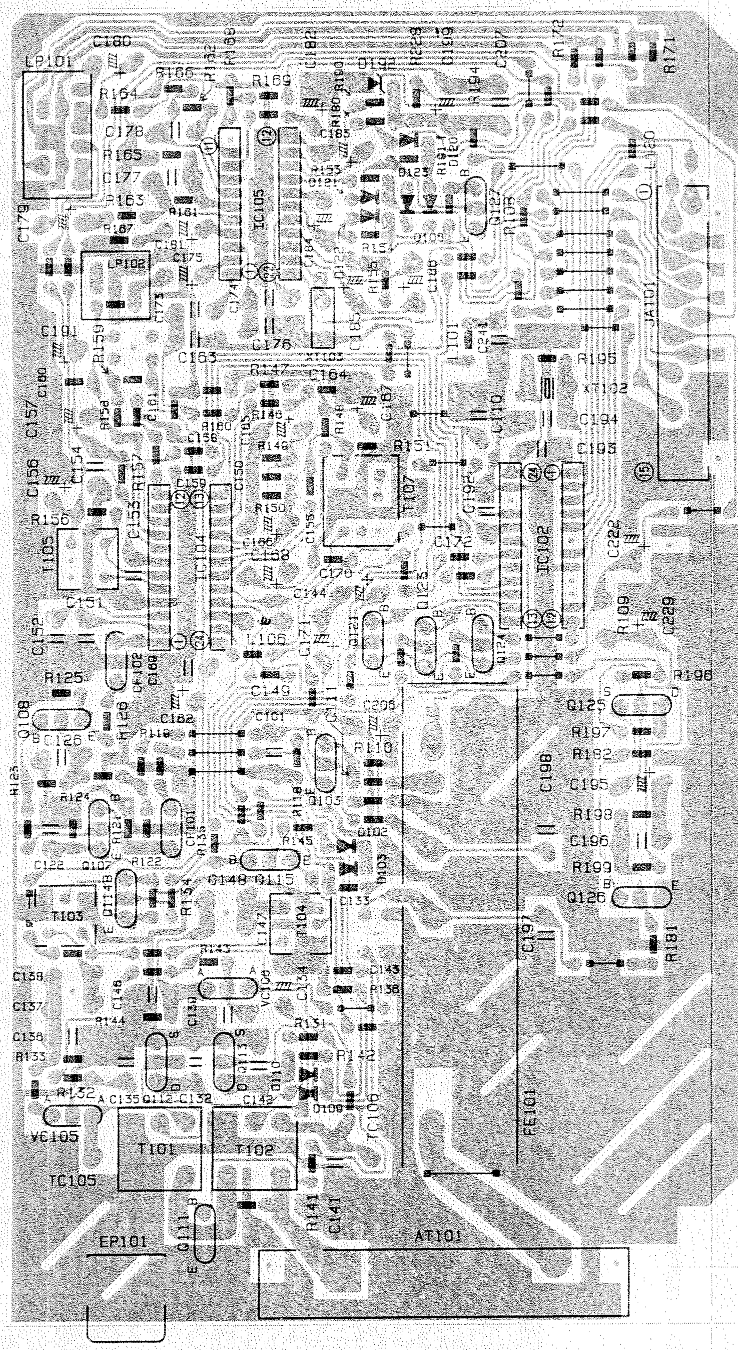
	EN, EF	G, GI	BS	VX
R160	10K	10K	1K	10K
R161, 162	100K	100K	68K	100K
C177, 178	560P	560P	820P	560P
FE101	EAF2203-001	EAF2203-003	EAF2203-001	EAF2302-001
LP102	NONE	USED	NONE	NONE
W191	USED	NONE	USED	USED
R149	22K	27K	22K	15K
R110	NONE	NONE	NONE	47K
C111	NONE	NONE	NONE	0.01
W151	USED	USED	USED	NONE
C107	NONE	47/50	NONE	NONE

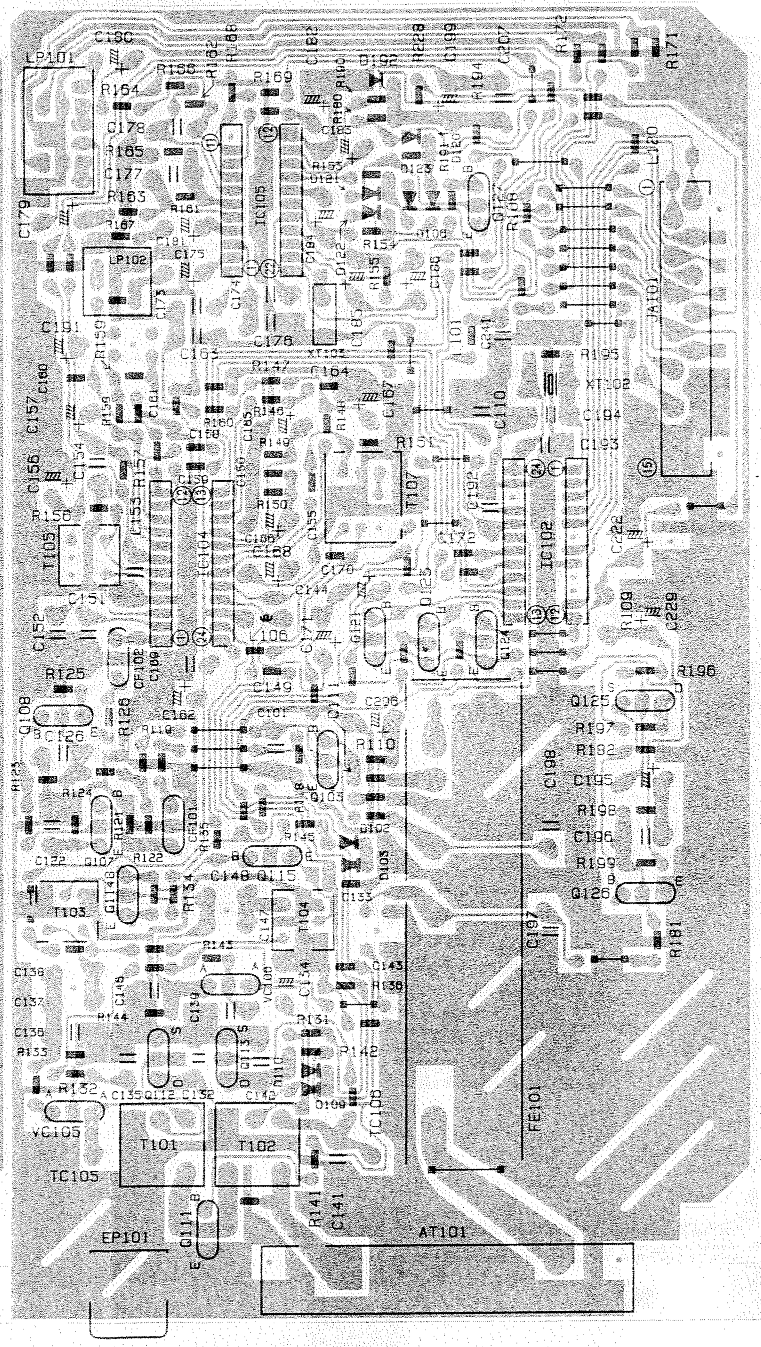
▭ FM AUTO NO SIGNAL
( ) MW NO SIGNAL
[ ] LW NO SIGNAL

(3) Display, Mic AMP & Volume CB (ENB-168)


J781
C795
R794
VR781
R795
C799
R708
C800
IC781
BC701
J091
C099
C100
C096
C095
C098
C097
R099
R100
JB005
R681
C675
P671
Q671
Q673
P672
P674
Q672
R674
C673
VR671
IC671
R679
C679
R205
XT201
C207
C204
IC201
S201
S204
S203
S202
MAKE-UP/SLEEP
DAILY
TIMER2
TIMER1
TEST
R216
R901
C902
R209
FL201
S213
S212
AM
FM
TUNING
CLOCK ADJ
S216
S205
S208
S209
MEMORY
FM MODE/MUTE
PRESET
S207
S214
S210
S211
CANCEL
PRESET SCAN
S206
S215
JB901
IC904
D902
D901
R921
R922
R221
R222
D213
D214
R227
C907
R116
JA902
JB903
JB902
C072
C071
C073
Q912
D917
ABX
S905
R917
BASS.CONT
BC672
BALANCE
VR901
BC674
RA201
RA202
XT901
C901
IC901
R914
RA902
RA901
R907
FL901
R905
R913
R918
IC910
S906
S910
S908
S907
S909
CINEMA H.PHON
BGM CAR
DOME CLASSIC
HALL POPS
D.CLB ROCK
Q902
R904
D913
D914
SEA
P.SURR/DEMO
S911
S912
S904
S903
S901
R915
PHONO
POWER
AUX
V.MASKING
D916
D915
S902
I H G F E D C B A
EMW10330

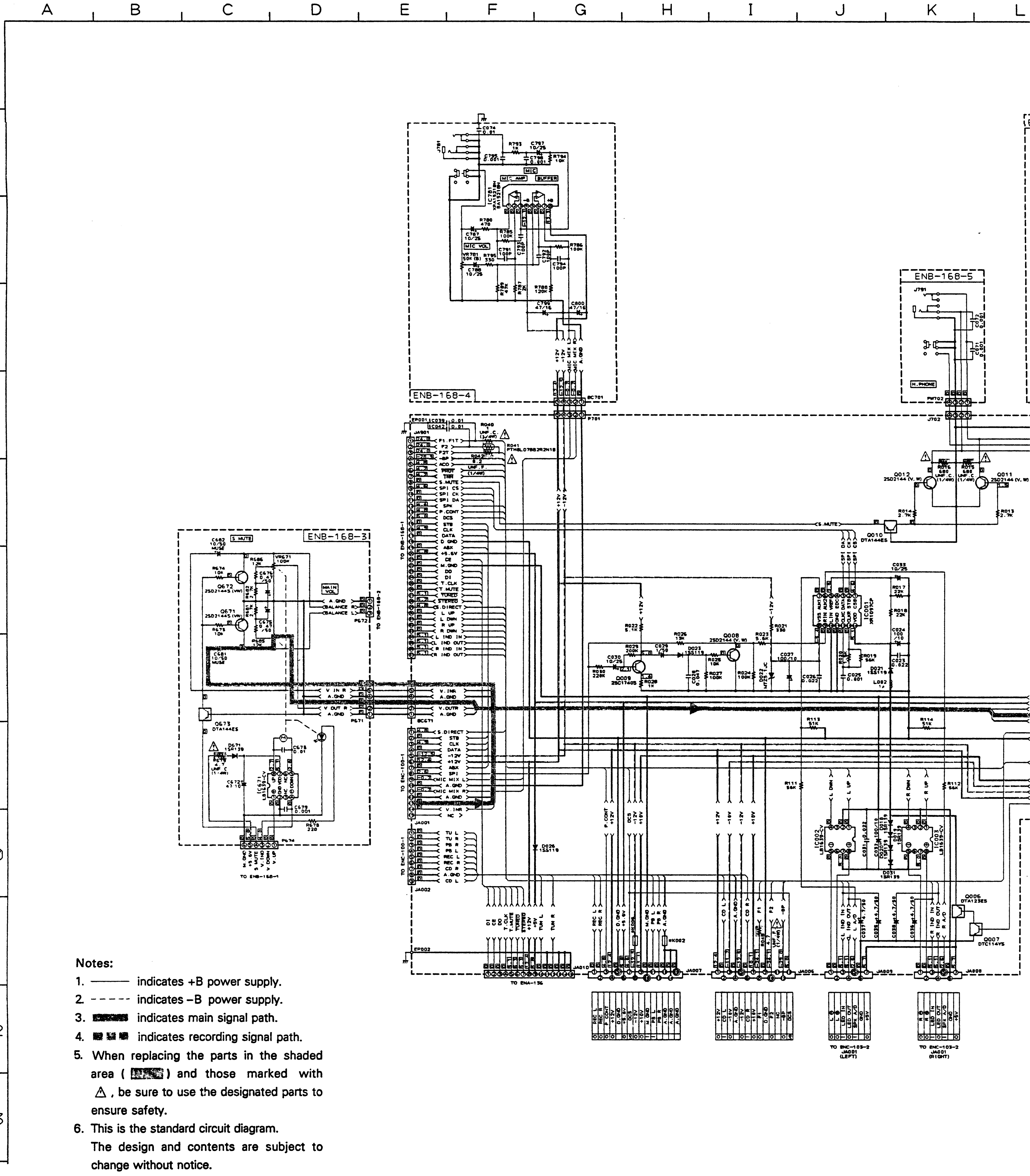
(4) Tuner CB (ENA-136)


LP101
LP102
IC105
IC104
IC102
T101
T102
T103
T104
T105
T107
L101
L105
L120
JA101
XT102
CF101
CF102
FE101
AT101
EP101
TC105
TC106
VC105
Q108
Q111
Q112
Q113
Q114
Q115
Q121
Q123
Q125
Q126
Q127
D102
D103
D109
D110
D192
R171
R172
R195
R196
R197
R198
R199
R181
C180
C197
C198
C229


LP101
LP102
IC105
IC104
IC102
T101
T102
T103
T104
T105
T107
L101
L105
L120
JA101
XT102
CF101
CF102
FE101
AT101
EP101
TC105
TC106
VC105
Q108
Q111
Q112
Q113
Q114
Q115
Q121
Q123
Q125
Q126
Q127
D102
D103
D109
D110
D192
R171
R172
R195
R196
R197
R198
R199
R181
C180
C197
C198
C229

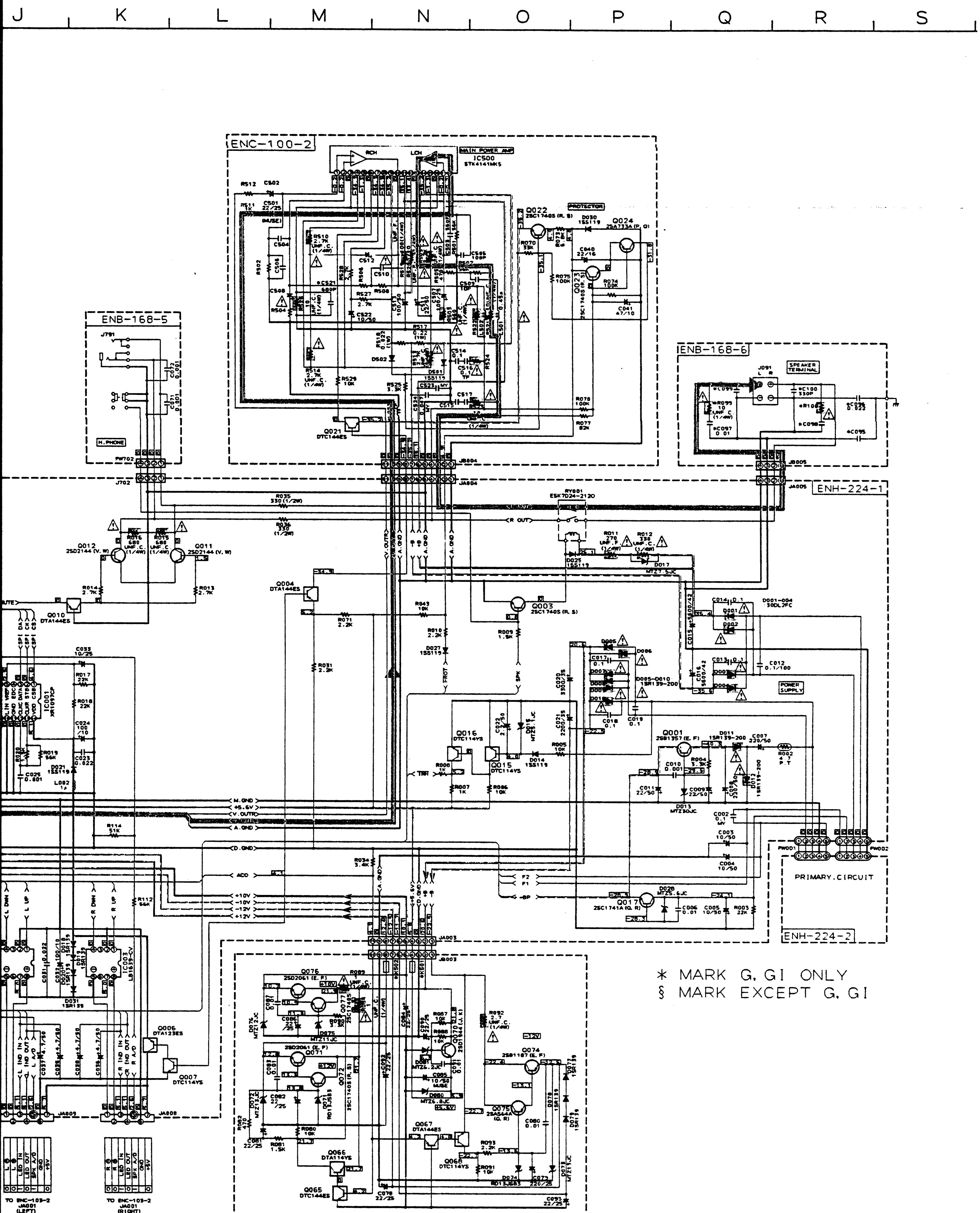
Schematic Diagrams

(1) Amplifier, Regulator, Mic AMP and Supply Section


A
B
C
D
E
F
G
H
I
J
K
L
1
2
3
4
5
6
7
8
9
10
11
12
13
ENB-168-4
ENB-168-5
ENB-168-3
MIC AMP
BUFFER
MIC VOL
H.PHONE
S.MUTE
MAIN VOL
IC781
IC001
IC671
IC002
IC003
J781
J791
BC701
P701
PW702
J702
JA901
BC671
P671
P672
P674
JA001
JA002
JA010
JA007
JA006
JA803
JA808
EP001
EP002
TO ENB-168-1
TO ENB-168-2
TO ENC-100-1
TO ENA-136
TO ENC-103-2 JA001 (LEFT)
TO ENC-103-2 JA001 (RIGHT)

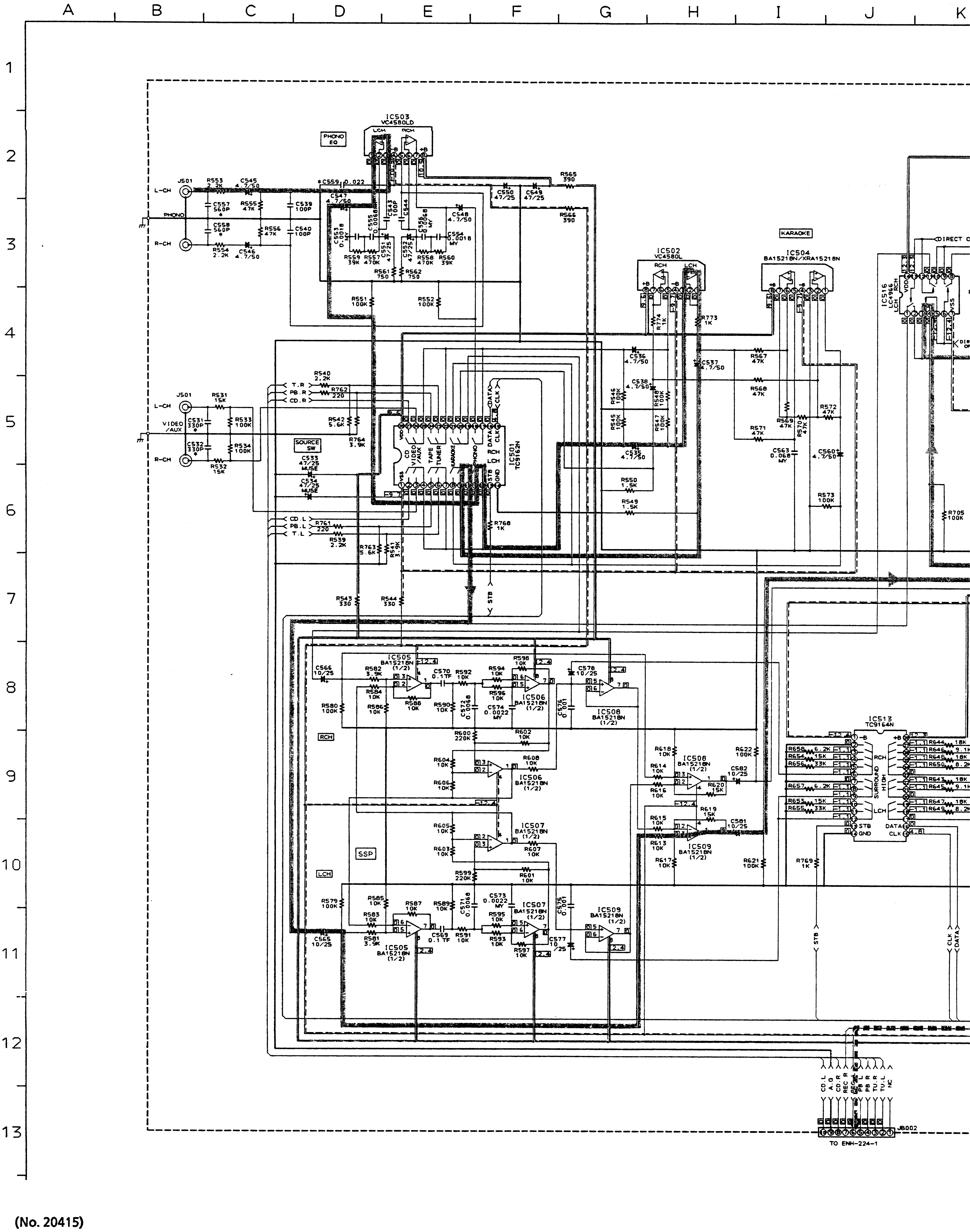
Notes:

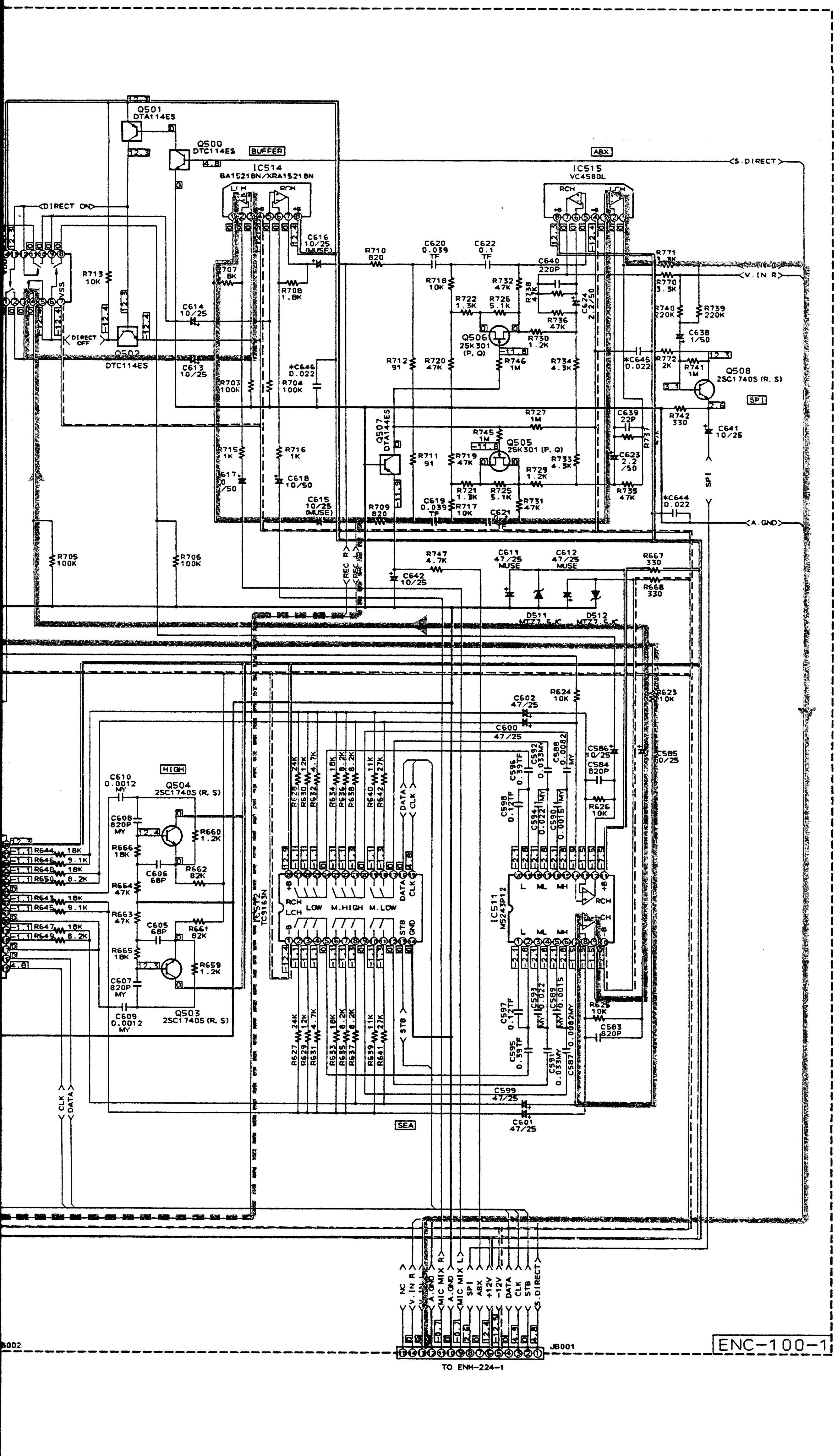
1. ——— indicates +B power supply.
2. - - - - - indicates −B power supply.
3. ▬▬ indicates main signal path.
4. ■ ■ ■ indicates recording signal path.
5. When replacing the parts in the shaded area (▨) and those marked with △, be sure to use the designated parts to ensure safety.
6. This is the standard circuit diagram. The design and contents are subject to change without notice.


J
K
L
M
N
O
P
Q
R
S
ENC-100-2
RCH
LCH
MAIN POWER AMP
IC500
STK4141MK5
Q022
2SC1740S (R, S)
PROTECTOR
Q024
2SA733A (P, Q)
Q023
2SC1740S (R, S)
Q021
DTC144ES
ENB-168-5
H.PHONE
ENB-168-6
SPEAKER TERMINAL
ENH-224-1
RY601
ESK7D24-2120
Q012
2SD2144 (V, W)
Q011
2SD2144 (V, W)
Q010
DTA144ES
Q004
DTA144ES
Q003
2SC1740S (R, S)
IC001
Q016
DTC114YS
Q015
DTC114YS
Q001
2SB1357 (E, F)
POWER SUPPLY
D001-004
30DL2FC
PRIMARY.CIRCUIT
ENH-224-2
Q017
2SC1741A (Q, R)
IC003
LB1639-CV
Q006
DTA123ES
Q007
DTC114YS
TO ENC-109-2
JA001
(LEFT)
TO ENC-109-2
JA001
(RIGHT)
ENC-100-3
Q076
2SD2061 (E, F)
Q077
Q071
2SD2061 (E, F)
Q072
Q070
Q074
2SB1187 (E, F)
Q075
2SA544A (Q, R)
Q067
DTA144ES
Q066
DTA114YS
Q068
DTC114YS
Q065
DTC144ES

* MARK G. GI ONLY
§ MARK EXCEPT G. GI

(2) Input Selector & SEA Section

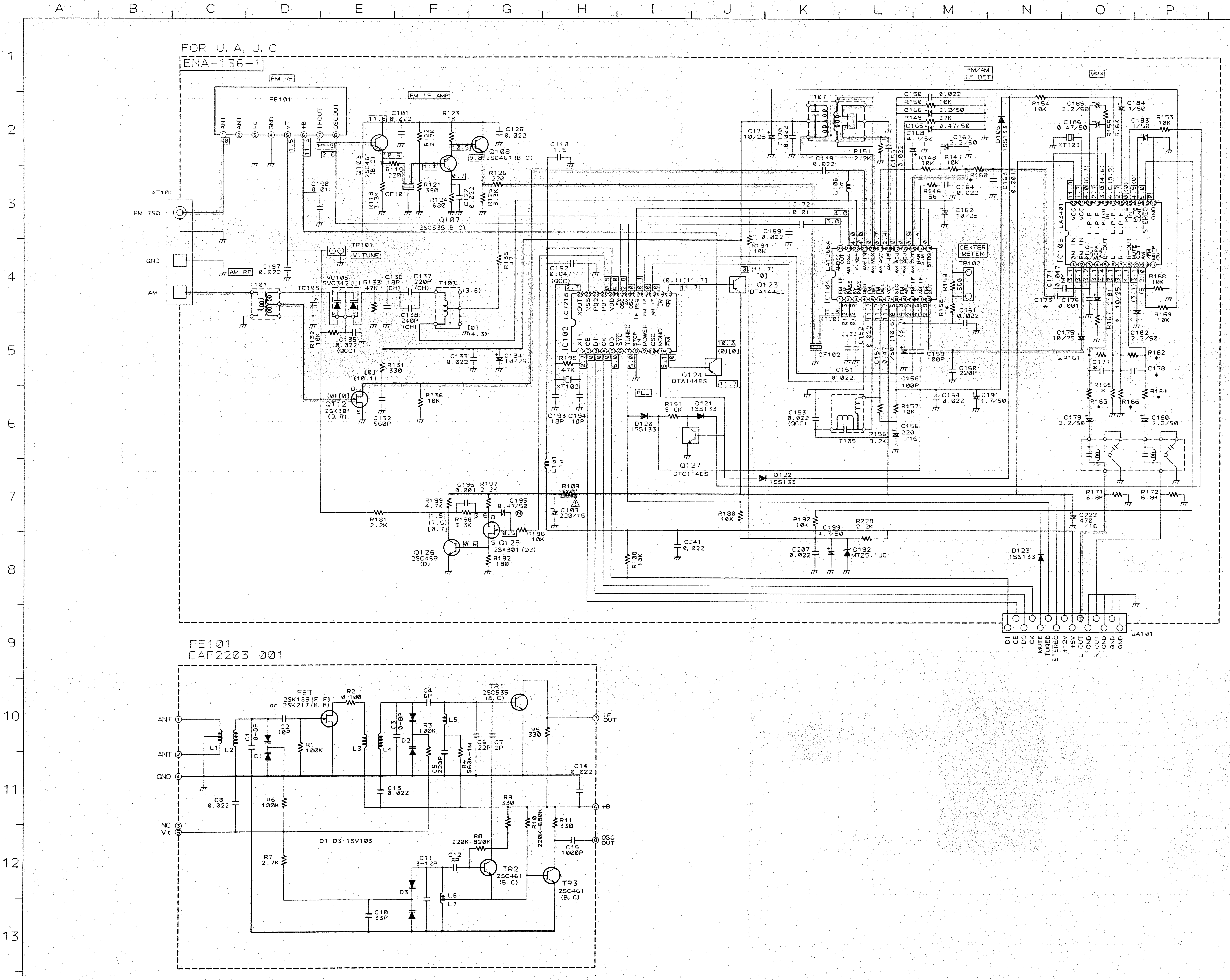

A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
9
10
11
12
13
PHONO EQ
IC503
VC4580LD
LCH
RCH
J501
L-CH
PHONO
R-CH
R553 2.2K
C545 4.7/50
C557 560P
C558 560P
R555 47K
R556 47K
C539 100P
C540 100P
R554 2.2K
C546 4.7/50
C559 0.022
C547 4.7/50
C555 0.0068
C543 100P
C544
C556 0.0068
C548 4.7/50
C553 0.0018
C554 0.0018
C551 47/25
C552 47/25
R559 39K
R557 470K
R558 470K
R560 39K
R561 750
R562 750
R551 100K
R552 100K
C550 47/25
C549 47/25
R565 390
R566 390
KARAOKE
IC502
VC4580L
IC504
BA15218N/XRA15218N
R774 1K
R773 1K
IC516
LC4966
DIRECT
C536 4.7/50
C537 4.7/50
C538 4.7/50
R567 47K
R568 47K
R569 47K
R570 47K
R571 47K
R572 47K
R546 100K
R548 100K
R545 100K
R547 100K
C535 4.7/50
C563 0.068
C560 4.7/50
R550 1.5K
R549 1.5K
R573 100K
R705 100K
R540 2.2K
T.R
PB.R
CD.R
R762 220
R542 5.6K
R764 3.9K
J501
R531 15K
VIDEO /AUX
C531 330P
C532 330P
R533 100K
R534 100K
R532 15K
SOURCE SW
C533 47/25 MUSE
C534 47/25 MUSE
IC501
TC9162N
CD
VIDEO AUX
TAPE
TUNER
KARAOKE
PHONO
DATA
CLK
RCH
LCH
STB
GND
VDD
VSS
CD.L
PB.L
T.L
R761 220
R539 2.2K
R763 5.6K
R541 3.9K
R768 1K
STB
R543 330
R544 330
IC505
BA15218N (1/2)
C566 10/25
R582 3.9K
R584 10K
C570 0.1TF
R592 10K
R594 10K
R598 10K
R596 10K
C578 10/25
IC506
BA15218N (1/2)
IC508
BA15218N (1/2)
R580 100K
R586 10K
R588 10K
R590 10K
C572 0.0068
C574 0.0022
C576 0.001
RCH
R600 220K
R602 10K
R604 10K
R606 10K
R608 10K
R618 10K
R614 10K
R616 10K
R620 15K
R622 100K
C582 10/25
R619 15K
R615 10K
R613 10K
R617 10K
C581 10/25
IC509
BA15218N (1/2)
R621 100K
IC507
BA15218N (1/2)
R605 10K
R603 10K
R607 10K
SSP
LCH
R599 220K
R601 10K
R579 100K
R585 10K
R583 10K
R581 3.9K
R587 10K
R589 10K
C571 0.0068
C573 0.0022
C575 0.001
C565 10/25
C569 0.1 TF
R591 10K
R593 10K
R595 10K
R597 10K
C577 10/25
IC513
TC9164N
R658 6.2K
R654 15K
R656 33K
R657 6.2K
R653 15K
R655 33K
R644 18K
R646 9.1K
R648 18K
R650 8.2K
R643 18K
R645 9.1K
R647 18K
R649 8.2K
SURROUND
HIGH
DATA
CLK
R769 1K
STB
CLK
DATA
CD.L
A.G
CD.R
REC.R
REC.L
PB.L
PB.R
TU.R
TU.L
NC
JB002
TO ENH-224-1


K
L
M
N
O
P
Q
R
S
Q501 DTA114ES
Q500 DTC114ES
BUFFER
IC514 BA15218N/XRA15218N
LCH
RCH
ABX
IC515 VC4580L
S.DIRECT
DIRECT ON
DIRECT OFF
Q502 DTC114ES
V.IN R
Q506 2SK301 (P, Q)
Q505 2SK301 (P, Q)
Q507 DTA114ES
Q508 2SC1740S (R, S)
SP1
A.GND
REC R
D511 MTZ7.5JC
D512 MTZ7.5JC
MUSE
HIGH
Q504 2SC1740S (R, S)
Q503 2SC1740S (R, S)
TC9163N
LOW
M.HIGH
M.LOW
DATA
CLK
STB
IC511 M5243P12
SEA
NC
V.IN R
A.GND
MIC MIX R
A.GND
MIC MIX L
SP1
ABX
+12V
-12V
DATA
CLK
STB
S.DIRECT
J8001
TO ENH-224-1
ENC-100-1

* MARK

SYMBOL NO.	A. EN. EF. BS	G. GI
C531. 532	NONE	USED
C557. 558	NONE	USED
C559	NONE	USED
C644~646	NONE	USED

(5) Tuner Section (without LW)


A B C D E F G H I J K L M N O P Q R S T
1 2 3 4 5 6 7 8 9 10 11 12 13
FOR U, A, J, C
ENA-136-1
FM RF
FE101
FM IF AMP
FM/AM IF DET
MPX
AT101
FM 75Ω
GND
AM
AM RF
TP101
V.TUNE
VC105 SVC342(L)
T101
TC105
T103
T107
T105
Q103 2SC461 (B.C)
Q107 2SC535 (B.C)
Q108 2SC461 (B.C)
Q112 2SK301 (Q.R)
Q123 DTA144ES
Q124 DTA144ES
Q125 2SK301 (Q2)
Q126 2SC458 (D)
Q127 DTC114ES
IC102 LC7218
IC104 LA1266A
IC105 LA3401
XT102
XT103
CF101
CF102
CENTER METER
TP102
PLL
D106 1SS133
D120 1SS133
D121 1SS133
D122 1SS133
D123 1SS133
D192 MTZ5.1JC
L101 1μ
L106 1μ
R109
JA101
DI CE DO CK MUTE TUNED STEREO +12V +5V L OUT GND R OUT GND GND GND
FE101
EAF2203-001
ANT ANT GND NC Vt
IF OUT
+B
OSC OUT
FET 2SK168(E.F) or 2SK217(E.F)
TR1 2SC535 (B.C)
TR2 2SC461 (B.C)
TR3 2SC461 (B.C)
D1-D3: 1SV103

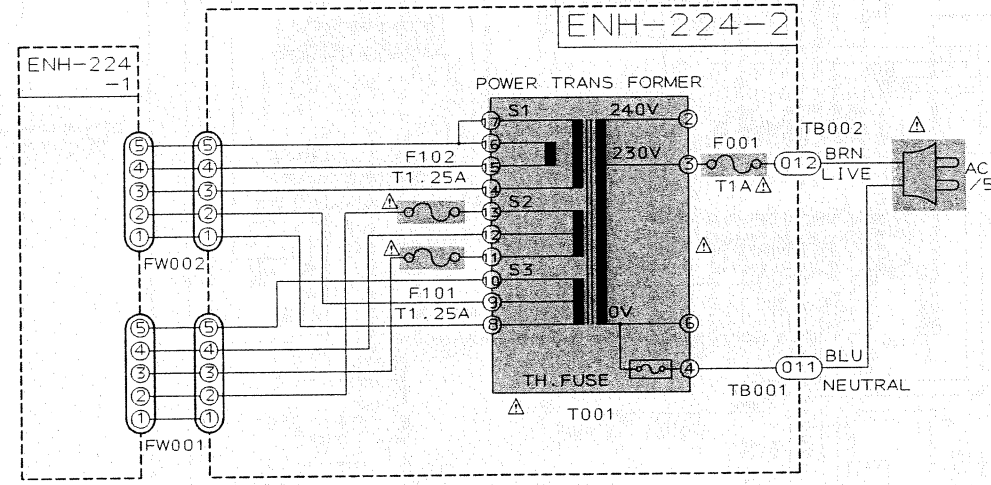
* MARK

	U	A	J, C
R109	68 UNF.F. (1/4W)	68 UNF.F. (1/4W)	68 UNF.C. (1/4W)
R167	39K	47K	39K
R160	5.6K	10K	5.6K
R161, 162	82K	100K	82K
R163, 164	4.7K	3.3K	4.7K
R165, 166	180K	270K	180K
C177, 178	820P	560P	820P
R158	27K	27K	18K
C173	0.039	0.022	0.039

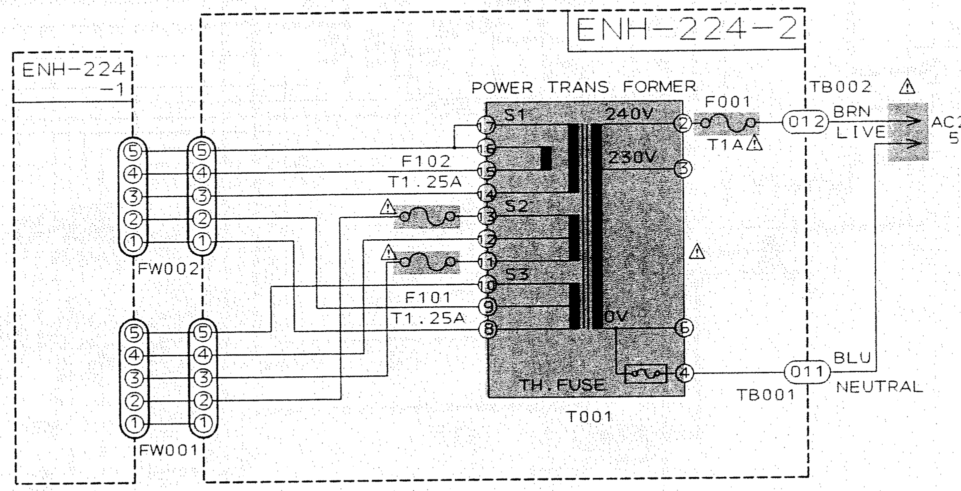
□FM AUTO NO SIGNAL
( )MW NO SIGNAL
[ ]LW NO SIGNAL

(6) Power Primary Section

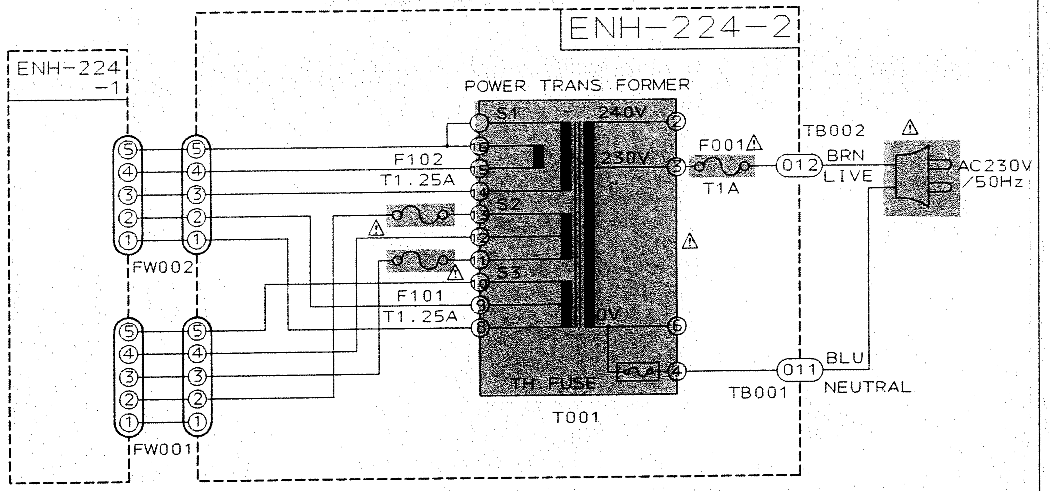
(EN, EF) EN FOR SCANDINAVIA
EF FOR CONTINENTAL EUROPE


ENH-224-1
ENH-224-2
POWER TRANS FORMER
S1
240V
230V
S2
S3
0V
TH. FUSE
T001
F102
T1.25A
F101
T1.25A
F001
T1A
FW002
FW001
TB002
012
BRN
LIVE
TB001
011
BLU
NEUTRAL
AC230V
/50Hz

(BS, A) BS FOR U.K. A FOR AUSTRALIA

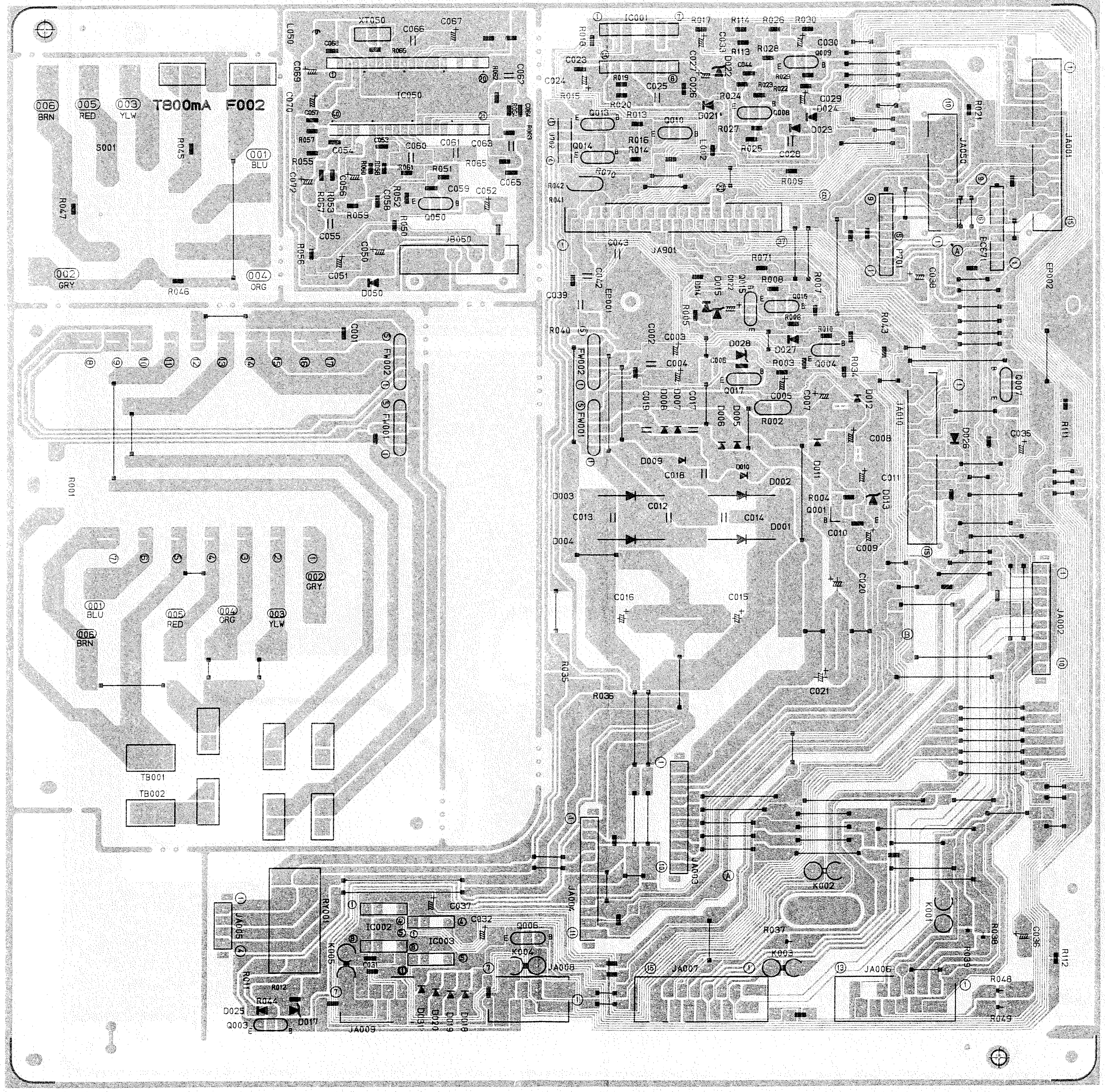

ENH-224-1
ENH-224-2
POWER TRANS FORMER
S1
240V
230V
S2
S3
0V
TH. FUSE
T001
F102
T1.25A
F101
T1.25A
F001
T1A
FW002
FW001
TB002
012
BRN
LIVE
TB001
011
BLU
NEUTRAL
AC240V
50Hz

(G, GI) G FOR GERMANY GI FOR ITALY

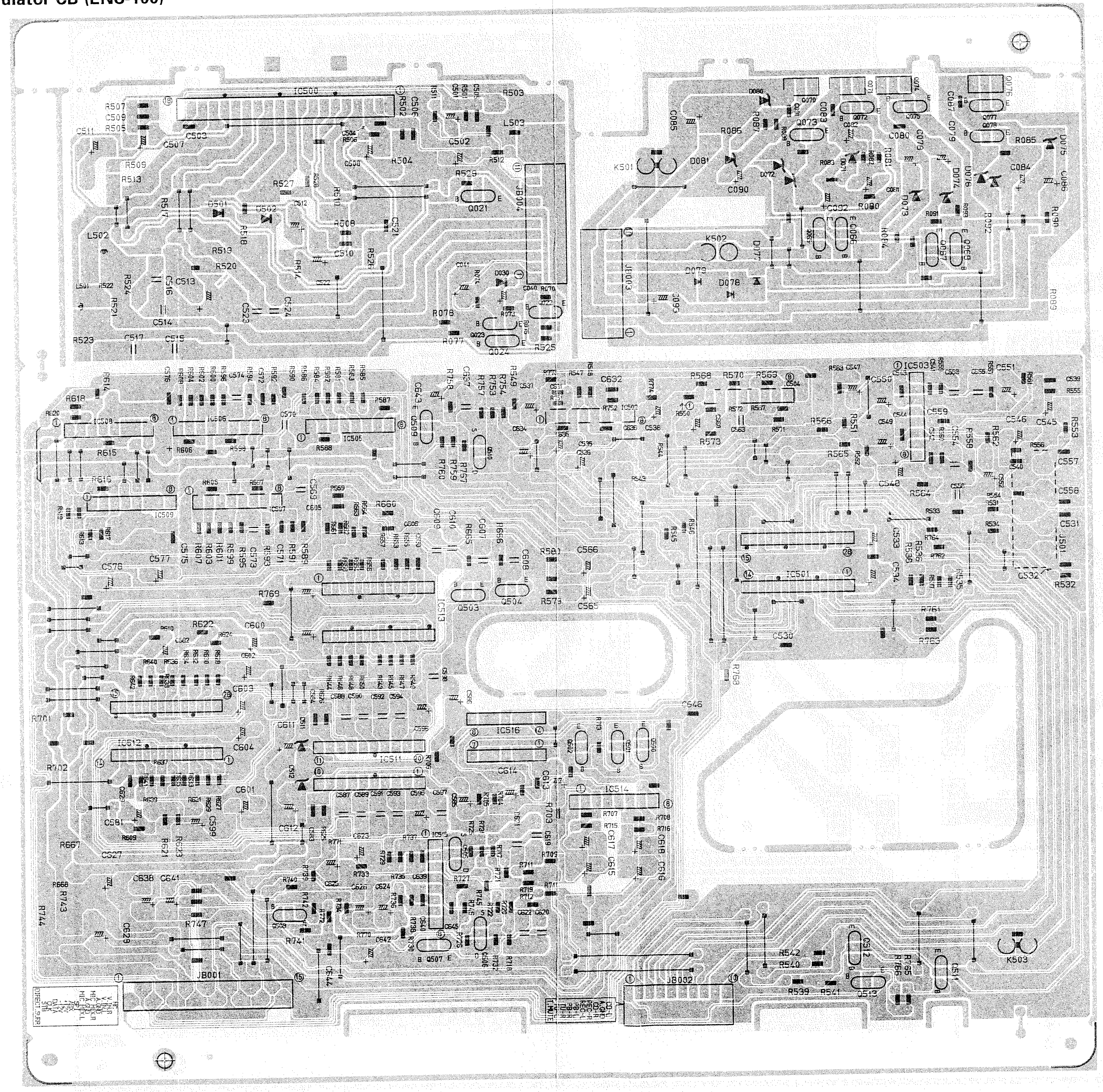

ENH-224-1
ENH-224-2
POWER TRANS FORMER
S1
240V
230V
S2
S3
0V
TH. FUSE
T001
F102
T1.25A
F101
T1.25A
F001
T1A
FW002
FW001
TB002
012
BRN
LIVE
TB001
011
BLU
NEUTRAL
AC230V
/50Hz

Printed Circuit Boards

(1) Main & Power Primary CB (ENH-224)

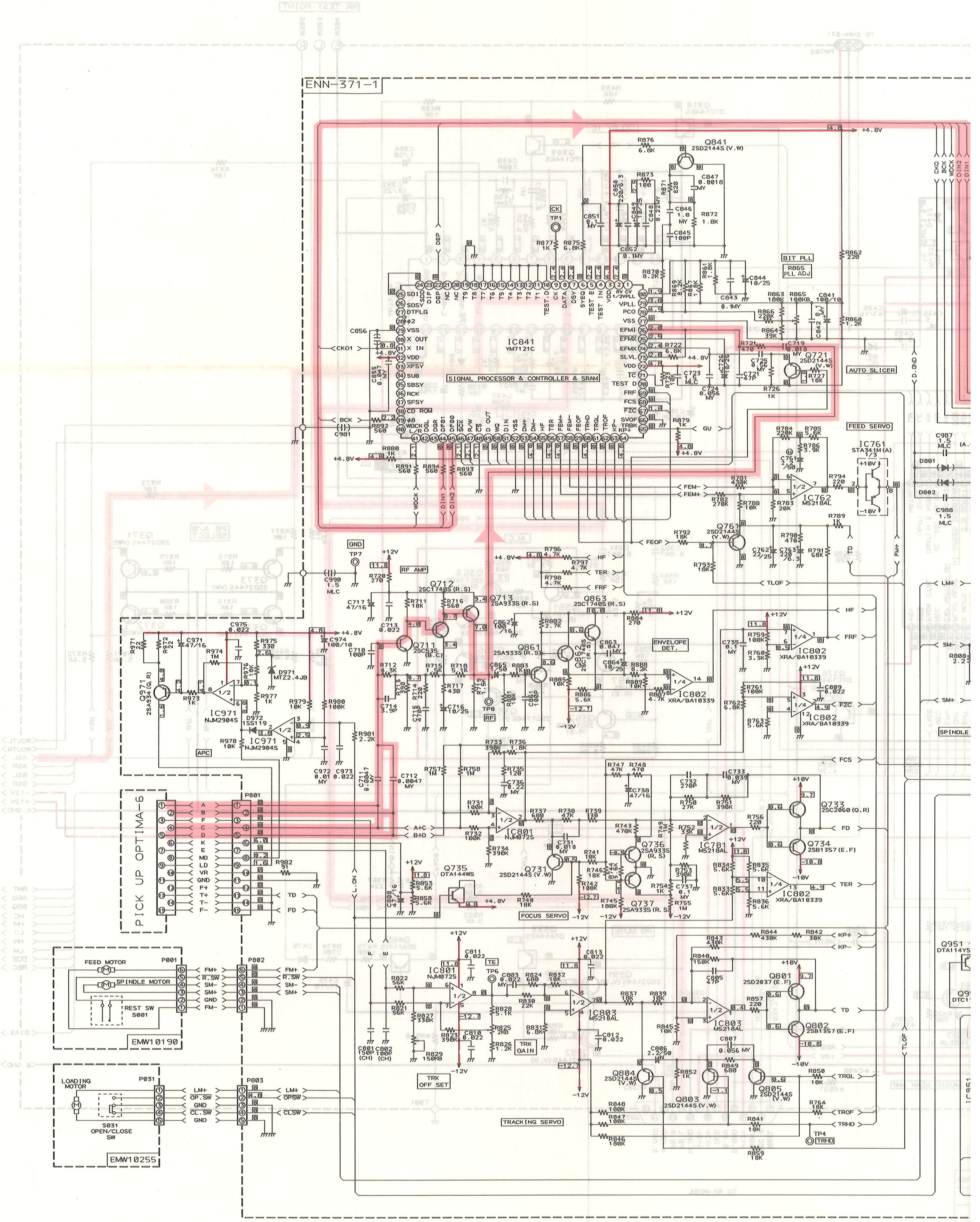

T800mA
F002
006 BRN
005 RED
003 YLW
001 BLU
002 GRY
004 ORG
S001
R045
R047
R046
R001
TB001
TB002
FW001
FW002
C001
XT050
C066
C067
L050
IC050
C069
C070
R057
C054
C060
C061
C063
R055
C072
C056
R051
R065
C065
C059
C052
Q050
R053
R052
C058
R059
R050
C055
JB050
C050
R056
C051
D050
IC001
R017
R114
R026
R030
R018
C023
C024
C033
R113
R028
C030
Q009
R015
R019
C025
C027
C026
R024
C029
D024
R020
Q013
R013
Q010
D021
C008
D029
Q014
R016
R014
R027
R025
C028
R070
R009
R042
R041
JA901
C043
R071
C042
EP001
C039
D014
D015
D012
Q015
R008
R007
R005
Q016
R006
R010
R043
R040
C002
C003
C004
D028
C006
D027
R003
Q004
R034
Q017
C005
C007
D012
D006
D007
D005
R002
D009
C018
D010
D011
C008
D002
R004
Q001
D003
C012
C013
C014
D001
D004
C010
C011
D013
C009
C016
C015
C020
R035
R036
C021
JA010
D026
C035
R111
Q007
JA050
R021
JA001
P701
EC671
C036
EP002
JA002
JA003
JA004
K002
K001
R037
K003
R038
R039
C036
R112
JA006
JA007
JA008
R048
R049
JA005
RX001
IC002
IC003
C037
C032
Q006
K004
K005
C031
R011
R012
R044
D025
D017
Q003
D131
D020
D019
D018
JA009

(2) Selector, Amplifier & Regulator CB (ENC-100)


IC500
IC501
IC503
IC505
IC506
IC508
IC509
IC511
IC512
IC513
IC514
IC515
IC516
JB001
JB002
JB004
J501
K501
K502
K503
L502
L503
Q021
Q022
Q073
Q503
Q504
Q507
Q512
Q513

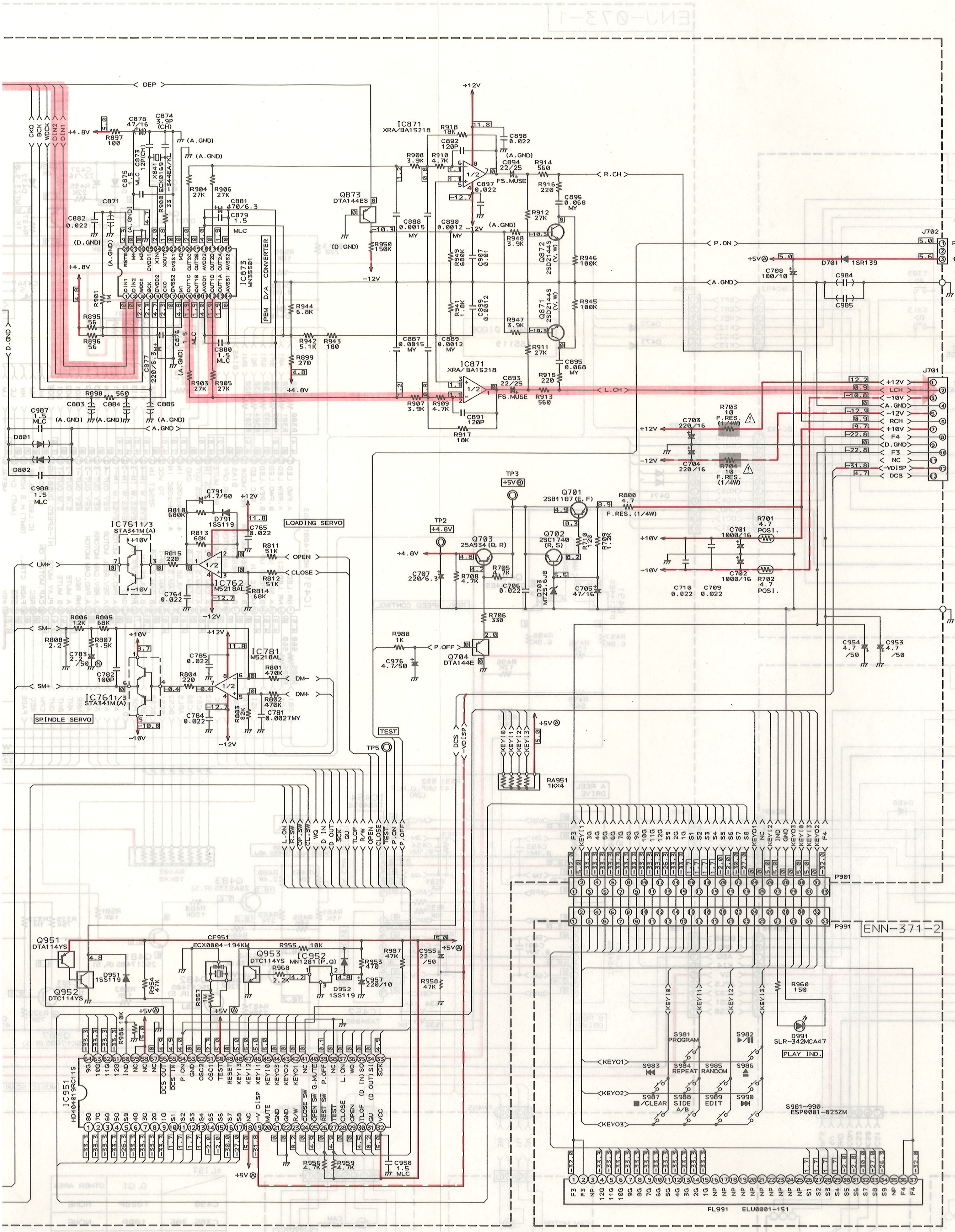
Schematic Diagrams

(1) CD Section


ENN-371-1
IC841 YM7121C
SIGNAL PROCESSOR & CONTROLLER & SRAM
BIT PLL
R865 PLL ADJ
AUTO SLICER
FEED SERVO
IC761 STA341M(A)
IC762 M5218AL
RF AMP
ENVELOPE DET.
IC802 XRA/BA10339
IC971 NJM2904S
APC
IC801 NJM072S
IC781 M5218AL
FOCUS SERVO
IC803 M5218AL
TRK GAIN
TRK OFF SET
TRACKING SERVO
PICK UP OPTIMA-6
P801
FEED MOTOR
SPINDLE MOTOR
REST SW S001
P001
P002
EMW10190
LOADING MOTOR
S031 OPEN/CLOSE SW
P031
P003
EMW10255
Q841 2SD2144S (V.W)
Q721 2SD2144S (V.W)
Q761 2SD2144S (V.W)
Q711 2SC535 (B.C)
Q712 2SC1740S (R.S)
Q713 2SA933S (R.S)
Q861 2SA933S (R.S)
Q863 2SC1740S (R.S)
Q733 2SC2060 (Q.R)
Q734 2SB1357 (E.F)
Q735 DTA144WS
Q731 2SD2144S (V.W)
Q736 2SA933S (R.S)
Q737 2SA933S (R.S)
Q801 2SD2037 (E.F)
Q802 2SB1357 (E.F)
Q803 2SD2144S (V.W)
Q804 2SD2144S (V.W)
Q805 2SD2144S (V.W)
Q971 2SA934 (Q.R)
+4.8V
+12V
-12V
+10V
-10V
TP1 CK
TP6 TE
TP7 GND
TP8 RF
TP4 TRHD

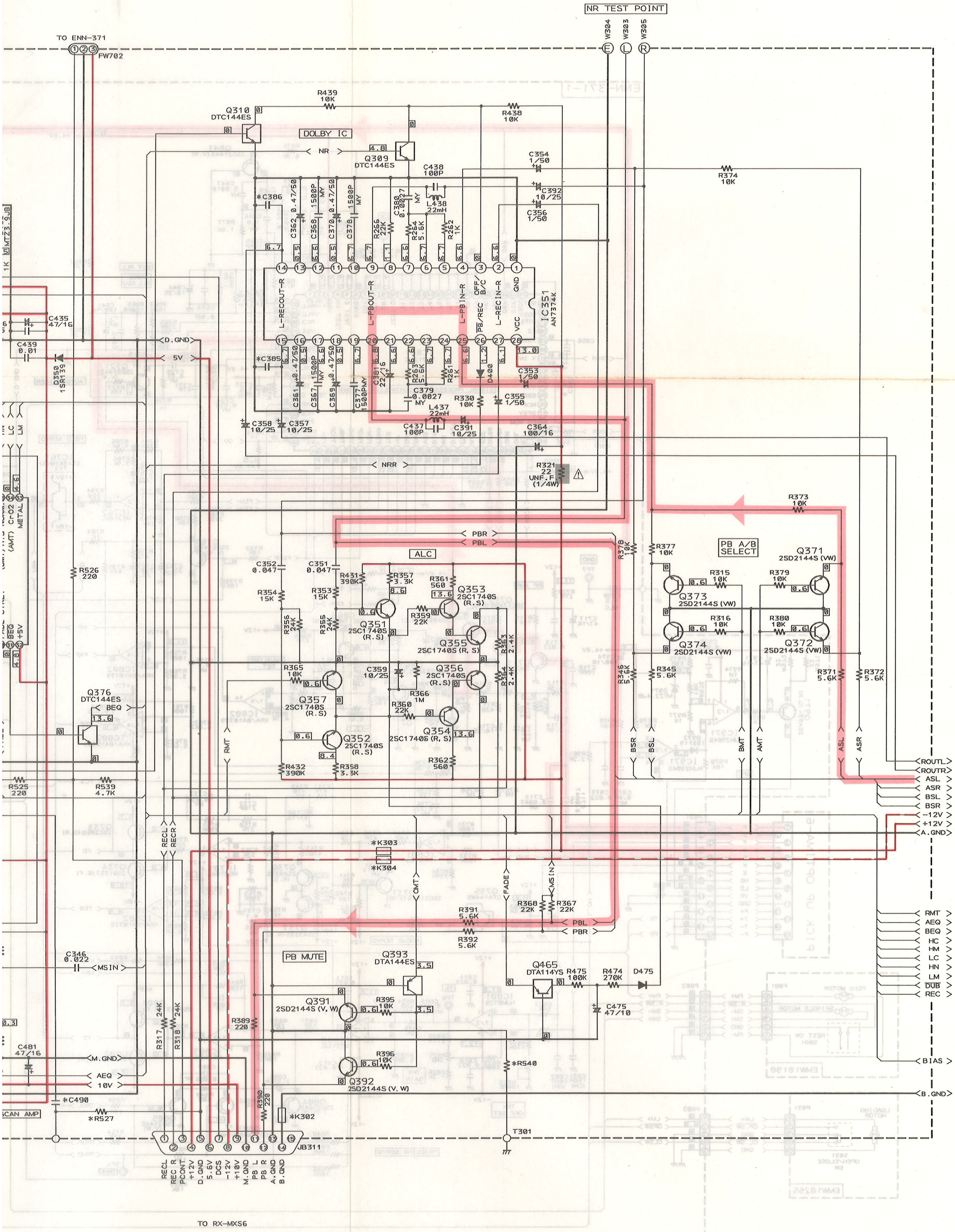
How to Use Schematic Diagrams

1. ——— indicates the +B line.
2. - - - - indicates the −B line.
3. ▬ indicates signal path.
4. - - - - Graphics signal path.
5. Parts marked with ⚠ and those in the shaded area ▬ are parts for safety. Be sure to use one with the specified part number.
6. This is the standard circuit diagram. The circuits and circuit constants are subject to change for improvement without notice.

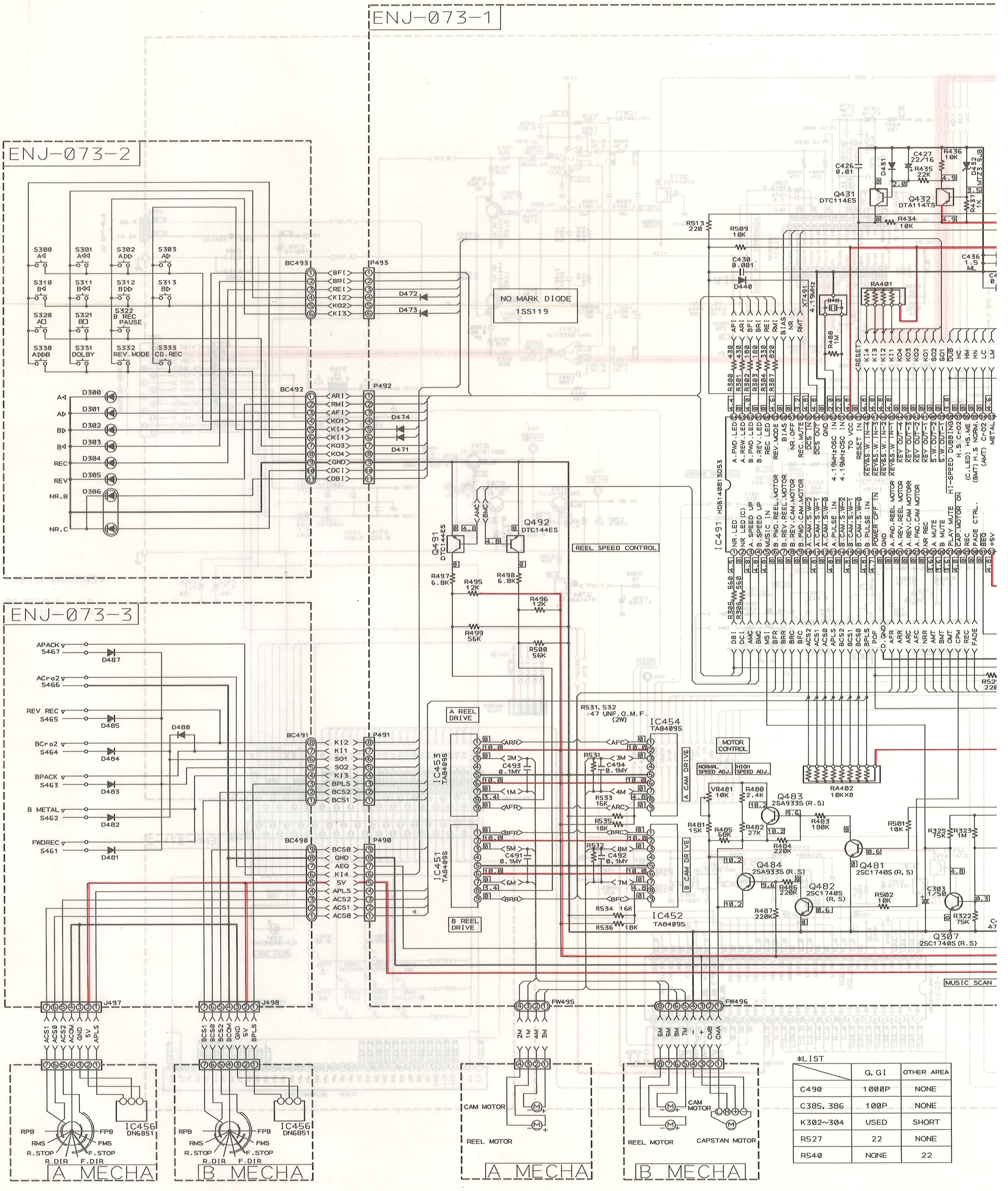

ENJ-073-1
DEP
CKO
BCK
WDCK
DIN2
DIN1
IC873
MN35501
PEM D/A CONVERTER
IC871
XRA/BA15218
R.CH
L.CH
FS.MUSE
Q873
DTA144ES
Q872
2SD2144S
Q871
2SD2144S
(A.GND)
(D.GND)
J702
P.ON
+5.6V
TO ENJ-073
D701
1SR139
J701
+12V
LCH
-10V
A.GND
-12V
RCH
+10V
F4
D.GND
F3
NC
-VDISP
DCS
FROM RX-S68K
R703
R704
F.RES. (1/4W)
TP3
TP2
Q701
2SB1187(E, F)
Q702
2SC1740 (R, S)
Q703
2SA934 (Q, R)
Q704
DTA144E
D703
MTZ5.6JB
R701
R702
POSI.
IC7611/3
STA341M(A)
IC762
M5218AL
IC781
M5218AL
LOADING SERVO
SPINDLE SERVO
OPEN
CLOSE
LM+
SM-
SM+
DM-
DM+
TEST
TP5
DCS
-VDISP
RA951
1KX4
P901
P991
ENN-371-2
Q951
DTA114YS
Q952
DTC114YS
Q953
DTC114YS
CF951
ECX0004-194KM
IC952
MN1281(P, Q)
D951
1SS119
D952
1SS119
IC951
HD404019RC11S
S981
PROGRAM
S982
S983
S984
REPEAT
S985
RANDOM
S986
S987
■/CLEAR
S988
SIDE A/B
S989
EDIT
S990
S981~990 : ESP0001-023ZM
D991
SLR-342MCA47
PLAY IND.
KEYO1
KEYO2
KEYO3
KEYI0
KEYI1
KEYI2
KEYI3
FL991
ELU0001-151

VERSION LIST

G --- A, EN, EF, BS
H --- G, GI


NR TEST POINT
W304
W303
W305
E
L
R
TO ENN-371
FW702
R439 10K
Q310 DTC144ES
R438 10K
DOLBY IC
NR
Q309 DTC144ES
C354 1/50
C438 100P
C392 10/25
L438 22mH
C356 1/50
R374 10K
*C386
C362 0.47/50
C368 1500P MY
C370 0.47/50
C378 1500P MY
R266 22K
C380 0.0027 MY
R264 5.6K
R262 1K
L-RECOUT-R
L-PBOUT-R
L-PBIN-R
OFF/B/C
PB/REC
L-RECIN-R
GND
VCC
IC351 AN7374K
C435 47/16
D.GND
5V
C439 0.01
D350 1SR139
*C385
C361 0.47/50
C367 1500P MY
C369 0.47/50
C377 1500P MY
C381 22/16
R265 5.6K
R261 1K
D400
C379 0.0027 MY
L437 22mH
R330 10K
C355 1/50
C353 1/50
C358 10/25
C357 10/25
C437 100P
C391 10/25
C364 100/16
NRR
R321 22 UNF.F (1/4W)
R373 10K
PBR
PBL
ALC
C352 0.047
C351 0.047
R431 390K
R357 3.3K
R361 560
Q353 2SC1740S (R.S)
R354 15K
R353 15K
R359 22K
Q351 2SC1740S (R.S)
R356 24K
R355 24K
Q355 2SC1740S (R, S)
R363 2.4K
R376 10K
R377 10K
PB A/B SELECT
Q371 2SD2144S (VW)
R315 10K
R379 10K
Q373 2SD2144S (VW)
R316 10K
R380 10K
Q374 2SD2144S (VW)
Q372 2SD2144S (VW)
R365 10K
C359 10/25
Q356 2SC1740S (R.S)
R364 2.4K
R346 5.6K
R345 5.6K
R371 5.6K
R372 5.6K
Q357 2SC1740S (R.S)
R366 1M
R360 22K
Q354 2SC1740S (R, S)
Q352 2SC1740S (R.S)
R362 560
R432 390K
R358 3.3K
Q376 DTC144ES
BEQ
R526 220
R525 220
R539 4.7K
RMT
BSR
BSL
BMT
AMT
ASL
ASR
ROUTL
ROUTR
ASL
ASR
BSL
BSR
-12V
+12V
A.GND
RECL
RECR
*K303
*K304
OMT
FADE
MSIN
R368 22K
R367 22K
R391 5.6K
R392 5.6K
PBL
PBR
RMT
AEQ
BEQ
HC
HM
LC
HN
LM
DUB
REC
C346 0.022
MSIN
PB MUTE
Q393 DTA144ES
Q465 DTA114YS
R475 100K
R474 270K
D475
Q391 2SD2144S (V, W)
R395 10K
C475 47/10
R389 220
R317 24K
R318 24K
C481 47/16
M.GND
AEQ
10V
R396 10K
*R540
BIAS
Q392 2SD2144S (V, W)
*C490
B.GND
SCAN AMP
*R527
R390 220
*K302
T301
JB311
RECL
REC R
PCONT
+12V
D.GND
5.6V
DCS
-12V
+10V
M.GND
PB L
PB R
A.GND
B.GND
TO RX-MXS6
LC
LM
CrO2
METAL
MTZ3.9JB
1K
+5V
SEG

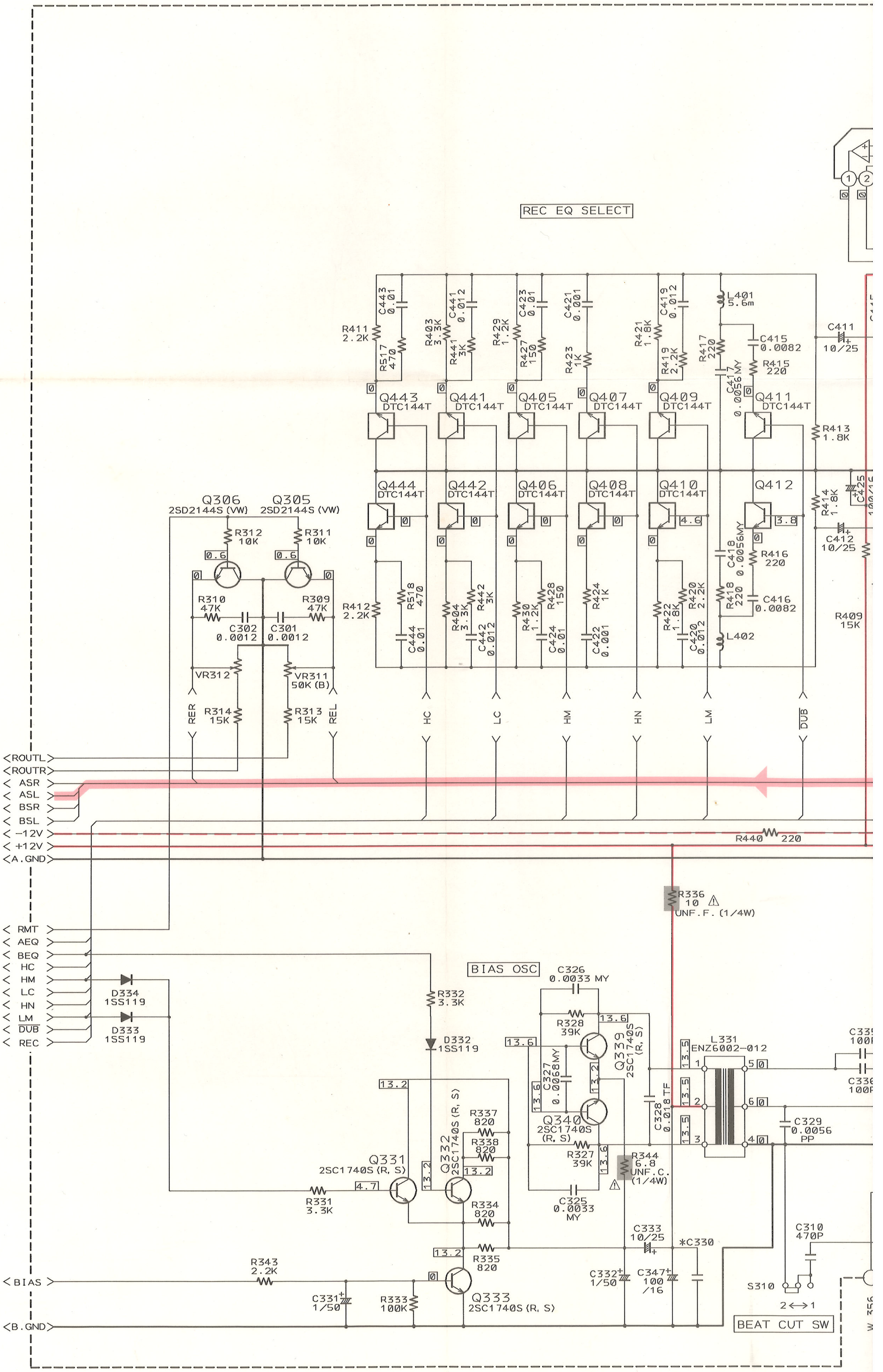
(2) Cassette Deck Control Section


ENJ-073-1
ENJ-073-2
ENJ-073-3
S300 A◁
S301 A◁◁
S302 A▷▷
S303 A▷
S310 B◁
S311 B◁◁
S312 B▷▷
S313 B▷
S320 A□
S321 B□
S322 B REC PAUSE
S330 A▷▷B
S331 DOLBY
S332 REV. MODE
S333 CD. REC
D300 D301 D302 D303 D304 D305 D306
A◁ A▷ B▷ B◁ REC REV NR.B NR.C
BC493
P493
BF1 BR1 RE1 KI2 KO2 KI3
D472
D473
NO MARK DIODE
1SS119
BC492
P492
AR1 RM1 AF1 KO1 KI4 KI1 KO3 KO4 GND DC1 DB1
D474
D471
Q491 DTC144ES
Q492 DTC144ES
REEL SPEED CONTROL
R497 6.8K
R495 12K
R498 6.8K
R496 12K
R499 56K
R500 56K
APACK S467
D487
ACro2 S466
REV REC S465
D485
D480
BCro2 S464
D484
BPACK S463
D483
B METAL S462
D482
FWDREC S461
D481
BC491
P491
KI2 KI1 SO1 SO2 KI3 BPLS BCS2 BCS1
BC490
P490
BCS0 GND AEQ KI4 5V APLS ACS2 ACS1 ACS0
A REEL DRIVE
IC453 TA8409S
IC451 TA8409S
B REEL DRIVE
C493 0.1MY
C491 0.1MY
R531, 532 :47 UNF.O.M.F. (2W)
IC454 TA8409S
IC452 TA8409S
A CAM DRIVE
B CAM DRIVE
MOTOR CONTROL
NORMAL SPEED ADJ.
HIGH SPEED ADJ.
R531
C494 0.1MY
R533 16K
R535 18K
R532
C492 0.1MY
R534 16K
R536 18K
VR481 10K
R480 2.4K
Q483 2SA933S (R.S)
R481 15K
R485 68K
R482 27K
R483 180K
R484 220K
Q484 2SA933S (R.S)
R486 220K
Q482 2SC1740S (R.S)
R487 220K
Q481 2SC1740S (R.S)
R501 10K
R502 10K
R325 75K
R323 1M
C303 1/50
R322 75K
Q307 2SC1740S (R.S)
RA402 10K×8
MUSIC SCAN
IC491 HD614081SD53
XT491 4.19MHz
R488 1M
R513 220
R509 10K
C430 0.001
D440
RA401
C426 0.01
D431
C427 22/16
R435 22K
R436 10K
D432 MTZ5.9JB
Q431 DTC114ES
Q432 DTA114TS
R437 1K
R434 10K
C436 1.5 ML
R300 430
R301 430
R302 180
R303 180
R304 330
R307 820
R305 560
R306 560
J497
ACS1 ACS0 ACS2 ACOM GND 5V APLS
J498
BCS1 BCS0 BCS2 BCOM GND 5V BPLS
FW495
2M 1M 4M 3M
FW496
6M 5M 8M 7M CMB CMA
RPB FPB RMS FMS R.STOP F.STOP R.DIR F.DIR
IC456 DN6851
A MECHA
B MECHA
CAM MOTOR
REEL MOTOR
CAPSTAN MOTOR

*LIST

	G, GI	OTHER AREA
C490	1000P	NONE
C385, 386	100P	NONE
K302~304	USED	SHORT
R527	22	NONE
R540	NONE	22

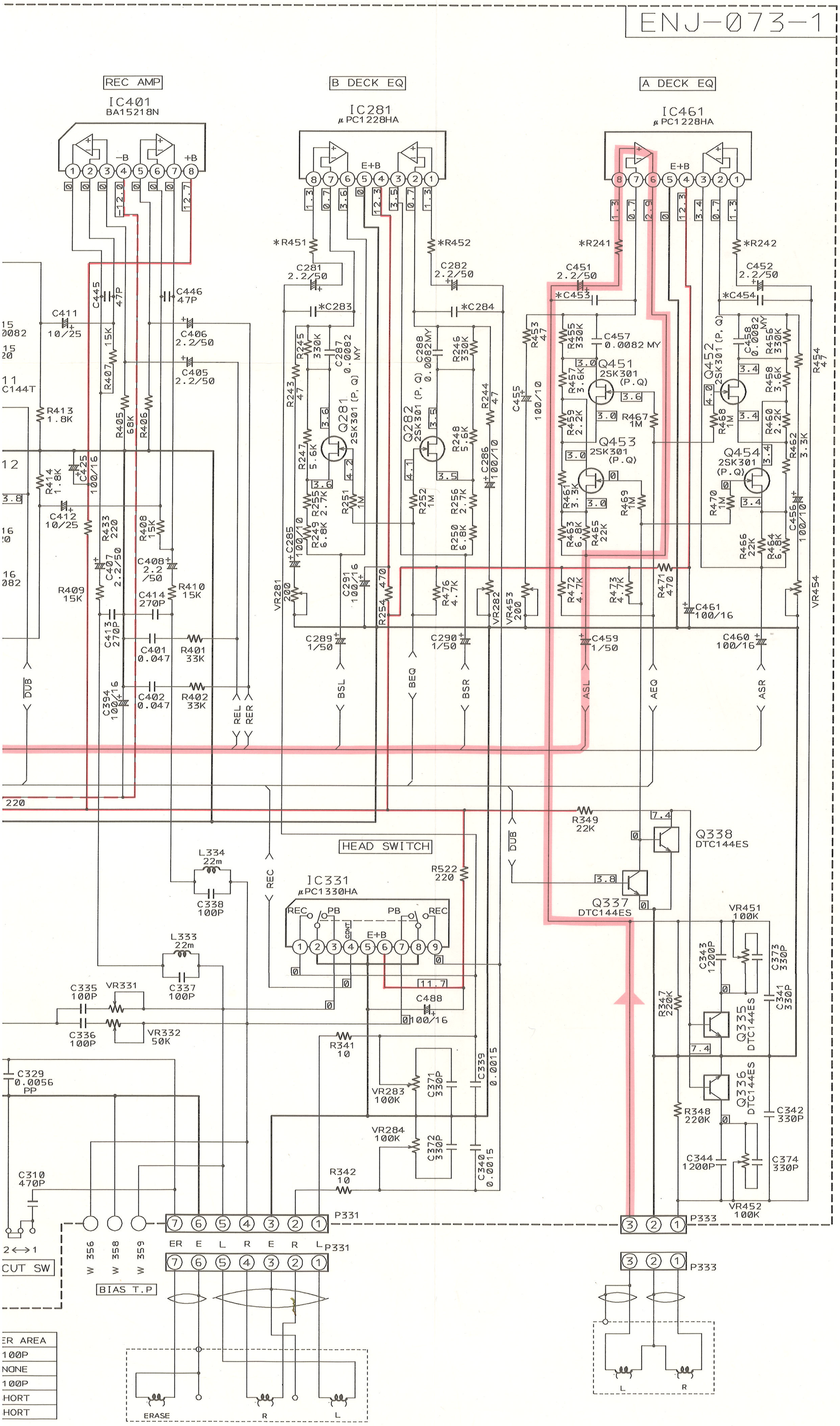
(3) Cassette Deck Section



REC EQ SELECT
C443 0.01
R411 2.2K
R517 470
R403 3.3K
C441 0.012
R441 3K
R429 1.2K
C423 0.1
R427 150
C421 0.001
R423 1K
R421 1.8K
C419 0.012
R419 2.2K
R417 220
L401 5.6m
C415 0.0082
R415 220
C417 0.0056MY
C411 10/25
Q443 DTC144T
Q441 DTC144T
Q405 DTC144T
Q407 DTC144T
Q409 DTC144T
Q411 DTC144T
R413 1.8K
Q444 DTC144T
Q442 DTC144T
Q406 DTC144T
Q408 DTC144T
Q410 DTC144T
Q412
R414 1.8K
C412 10/25
C418 0.0056MY
R416 220
C416 0.0082
R418 220
L402
R409 15K
R412 2.2K
R518 470
C444 0.01
R404 3.3K
R442 3K
C442 0.012
R430 1.2K
R428 150
C424 0.01
R424 1K
C422 0.001
R422 1.8K
R420 2.2K
C420 0.012
4.6
3.8
Q306 2SD2144S (VW)
Q305 2SD2144S (VW)
R312 10K
R311 10K
0.6
R310 47K
R309 47K
C302 0.0012
C301 0.0012
VR312
VR311 50K (B)
R314 15K
R313 15K
RER
REL
HC
LC
HM
HN
LM
DUB
ROUTL
ROUTR
ASR
ASL
BSR
BSL
−12V
+12V
A.GND
R440 220
R336 10 UNF.F. (1/4W)
RMT
AEQ
BEQ
HC
HM
LC
HN
LM
DUB
REC
D334 1SS119
D333 1SS119
BIAS OSC
C326 0.0033 MY
R332 3.3K
D332 1SS119
R328 39K
13.6
13.2
Q339 2SC1740S (R, S)
C327 0.0068MY
Q340 2SC1740S (R, S)
R327 39K
C325 0.0033 MY
R344 6.8 UNF.C. (1/4W)
C328 0.018 TF
L331 ENZ6002-012
13.5
C329 0.0056 PP
R337 820
R338 820
Q332 2SC1740S (R, S)
Q331 2SC1740S (R, S)
4.7
R331 3.3K
R334 820
R335 820
Q333 2SC1740S (R, S)
R343 2.2K
BIAS
C331 1/50
R333 100K
B.GND
C333 10/25
*C330
C332 1/50
C347 100 /16
C310 470P
S310
2⟷1
BEAT CUT SW

* MARK

	G, GI	OTHER AREA
C283, 284	470P	100P
C330	0.022	NONE
C453, 454	470P	100P
R241, 242	47	SHORT
R451, 452	47	SHORT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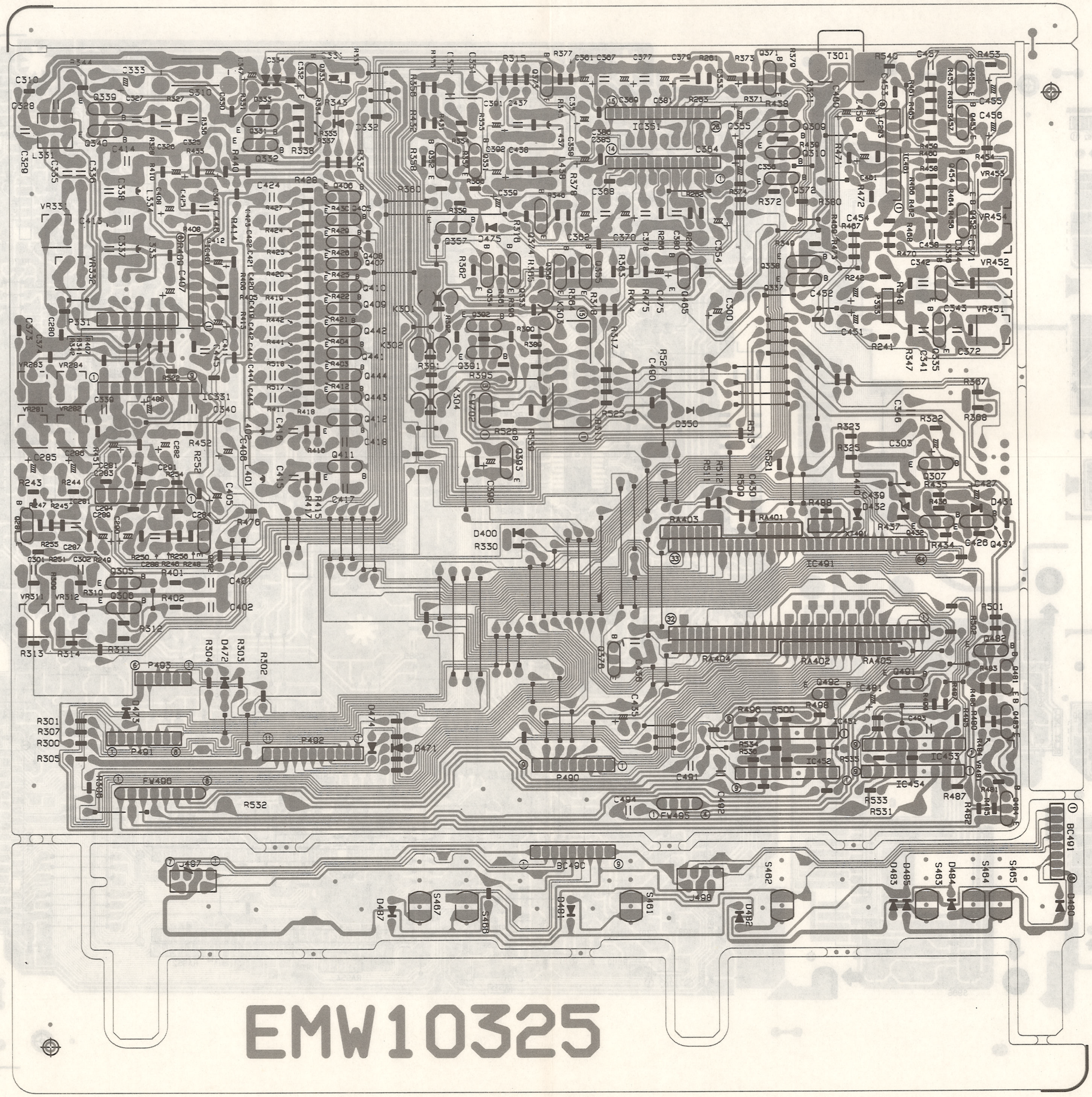
REC AMP
IC401
BA15218N
B DECK EQ
IC281
μPC1228HA
A DECK EQ
IC461
μPC1228HA
-B
+B
E+B
*R451
*R452
*R241
*R242
C281 2.2/50
C282 2.2/50
C451 2.2/50
C452 2.2/50
*C283
*C284
*C453
*C454
C411 10/25
C445 47P
C446 47P
C406 2.2/50
C405 2.2/50
R407 15K
R413 1.8K
R414 1.8K
C425 100/16
C412 10/25
R405 68K
R406
R433 220
R408 15K
C407 2.2/50
C408 2.2/50
R409 15K
R410 15K
C414 270P
C413 270P
C401 0.047
R401 33K
C402 0.047
R402 33K
C394 100/16
R245 330K
C287 0.0082 MY
R243 47
Q281 2SK301 (P, Q)
R247 5.6K
R255 2.7K
R249 6.8K
R251 1M
C285 100/10
VR281 200
C291 100/16
R254 470
C289 1/50
C288 0.0082MY
R246 330K
R244 47
Q282 2SK301 (P, Q)
R248 5.6K
R252 1M
R256 2.7K
R250 6.8K
C286 100/10
R476 4.7K
VR282
C290 1/50
R453 47
C455 100/10
VR453 200
R455 330K
C457 0.0082 MY
R457 3.6K
Q451 2SK301 (P.Q)
R459 2.2K
R467 1M
Q453 2SK301 (P.Q)
R461 3.3K
R469 1M
R463 6.8K
R465 22K
R472 4.7K
R473 4.7K
R471 470
C461 100/16
C459 1/50
C458 0.0082 MY
R456 330K
Q452 2SK301 (P, Q)
R458 3.6K
R468 1M
R460 2.2K
Q454 2SK301 (P.Q)
R462 3.3K
R470 1M
C456 100/10
R466 22K
R464 6.8K
R454 47
VR454
C460 100/16
DUB
REL
RER
BSL
BEQ
BSR
ASL
AEQ
ASR
REC
220
R349 22K
Q338 DTC144ES
Q337 DTC144ES
HEAD SWITCH
L334 22m
C338 100P
IC331 μPC1330HA
REC
PB
CONT
E+B
R522 220
C488 100/16
L333 22m
C337 100P
C335 100P
VR331
C336 100P
VR332 50K
R341 10
VR283 100K
C371 330P
C339 0.0015
VR284 100K
C372 330P
C340 0.0015
R342 10
C329 0.0056 PP
C310 470P
VR451 100K
C343 1200P
C373 330P
R347 220K
Q335 DTC144ES
C341 330P
Q336 DTC144ES
R348 220K
C342 330P
C344 1200P
C374 330P
VR452 100K
P331
P333
2↔1
CUT SW
W356
W358
W359
BIAS T.P
ER E L R E R L
ERASE
R
L
ER AREA
100P
NONE
100P
HORT
HORT
12.0
12.7
-12.0
1.3
0.7
3.6
3.5
12.3
2.9
3.4
3.0
4.0
4.1
4.2
3.8
7.4
11.7
0

Printed Circuit Boards

(1) Deck PCB (ENJ-073)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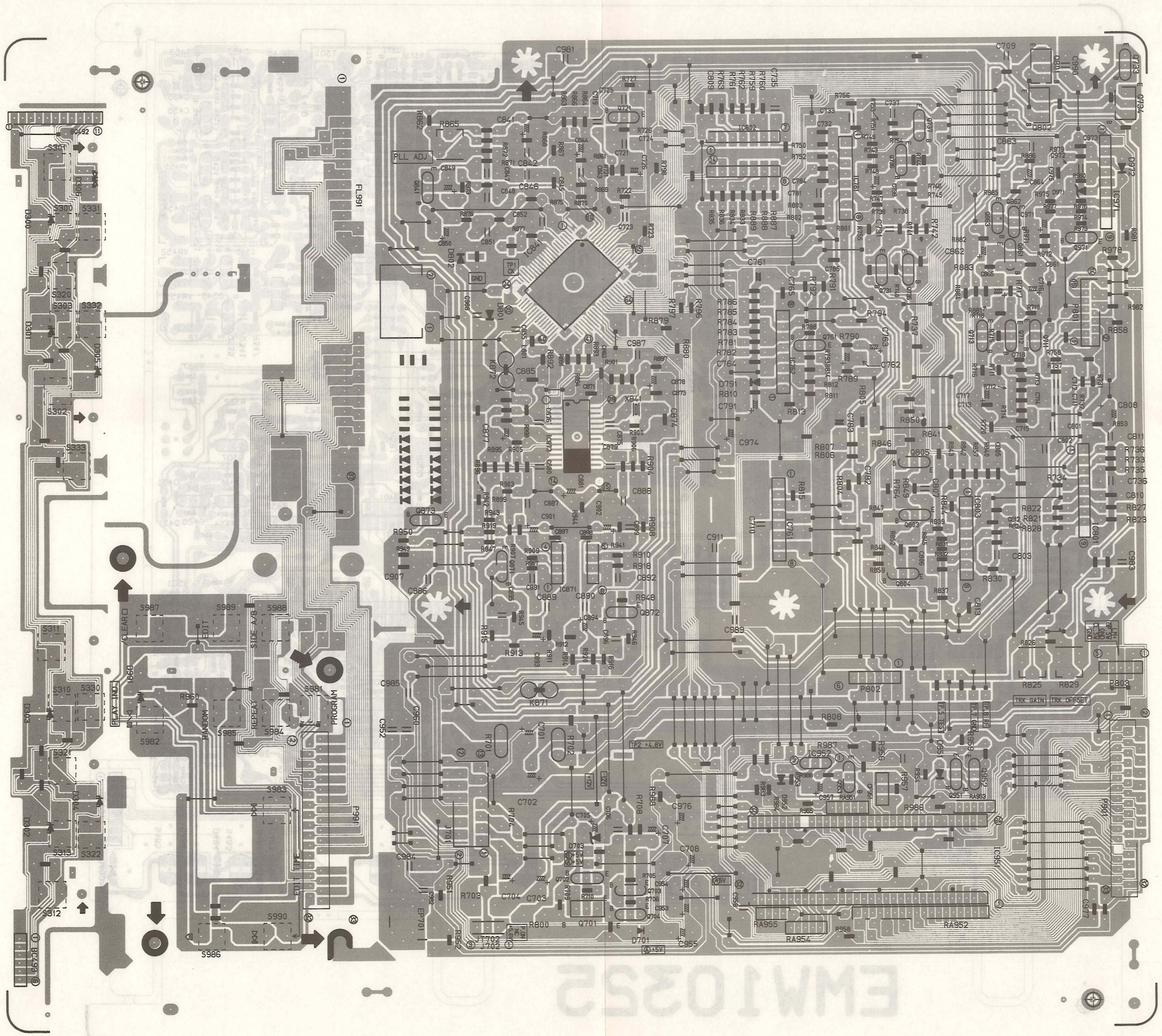
IC331
IC491
IC452
IC453
IC454
RA401
RA402
RA403
RA404
RA405
P491
P492
P493
P490
FW496
FW495
BC490
BC491
J487
J498
T301
S401
S402
S403
S404
S405
S407
S408

(2) CD PCB (ENN-371)


PLL ADJ
FL991
GND
TP1
TP2 +4.8V
TRK GAIN
TRK OFFSET
CLEAR
EDIT
SIDE A/B
PLAY/INFO
RANDOM
REPEAT
PROGRAM
IC801
IC802
IC841
IC871
IC951
IC971
IC761
P991
P901
P802
P803
S301
S302
S310
S311
S312
S313
S320
S321
S322
S330
S331
S332
S333
S981
S982
S983
S984
S985
S986
S987
S988
S989
S990
X871
Q701
Q802
Q804
Q805
Q873
D701
D801
D802
C702
C703
C704
C708
C709
C761
C762
C764
C803
C808
C885
C888
C907
C911
C952
C955
C974
C976
C981
C985
C987
C988
C989
RA952
RA954
RA955
R703
R791
R808
R825
R829
R830
R850
R862
R865
R913
R915
R976
R987
R988
EP701
J701
J702

PARTS LIST

Note : All printed circuit boards and its assemblies are not available as service parts.

Contents

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  ■ENH-224 ☐ Main & Power Primary PC Board Ass'y 2-5
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  ■ENC-100 ☐ Selector, Amplifier & Regulator PC Board Ass'y 2-13
Accessories List 2-16
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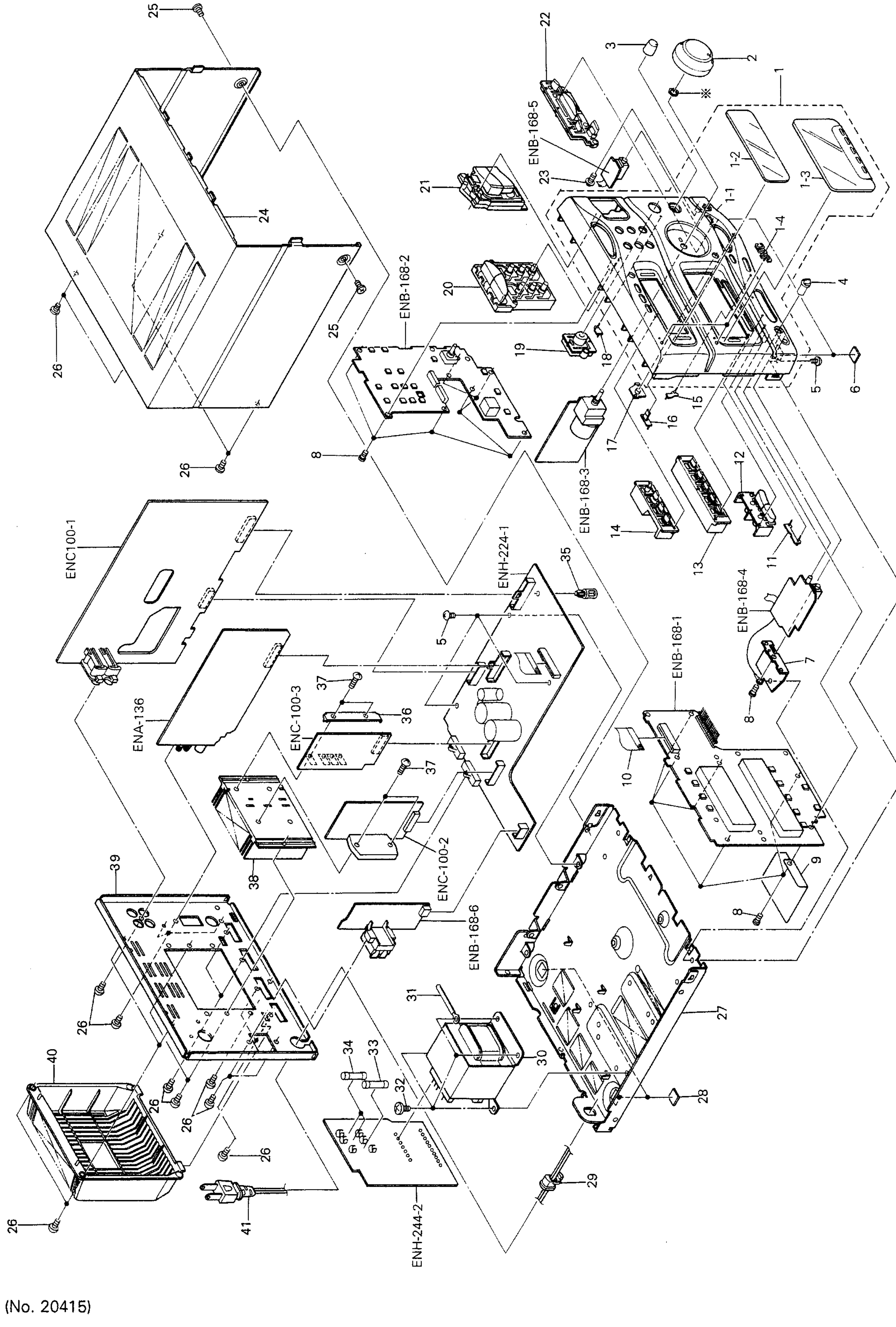
General Exploded View and Parts List


25
24
26
25
26
22
3
2
※
1
ENB-168-5
1-2
1-3
23
21
1-1
1-4
ENB-168-2
20
4
19
18
5
6
15
16
17
8
ENB-168-3
12
13
14
11
ENC100-1
ENH-224-1
35
5
ENB-168-4
ENB-168-1
7
8
37
ENA-136
ENC-100-3
36
37
10
39
38
ENC-100-2
9
8
ENB-168-6
31
27
26
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32
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26
29
41
ENH-244-2
26

※ mark indicates attached part.

■ Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-RXMXS6BKE (S	FRONT PANEL ASSY	1		
	1-1	E102684-013SM	FRONT PANEL	1		
	1-2	E308421-001SM	WINDOW SCREEN	1		
	1-3	E308423-008	WINDOW SCREEN	1		
	1-4	E406971-221	JVC MARK	2		
	2	E308414-001SS	VOLUME KNOB	1		
	3	E75737-008	KNOB	1	BALANCE	
	4	E407233-002	KNOB	1	MIC	
	5	SBSG3008CC	SCREW	4		
	6	E75896-001	SPACER	2	FRONT FOOT	
	7	E407580-001SM	BRACKET	1		
	8	SDSF2608Z	SCREW	14		
	9	E308547-002	SHIELD PLATE ASSY	1		
	10	EWR637K-22TTJ3	FLAT WIRE	1	FW901	
	11	E407438-001SM	INDICATOR LENS	1		
	12	E308427-001SM	PUSH BUTTON	1		
	13	E308426-001SM	PUSH BUTTON	1	SEA	
	14	E308425-001SM	PUSH BUTTON	1	TIMER	
	15	E407440-001SM	INDICATOR LENS	1		
	16	E407437-001SM	POWER INDICATOR	1		
	17	E407431-001SM	REMOCON LENS	1		
	18	E407439-001SM	INDICATOR LENS	1		
	19	E308428-001SM	PUSH BUTTON	1	BASS	
	20	E207788-001SM	PUSH BUTTON	1	TUNER BAND	A
		E207788-002SM	PUSH BUTTON	1	TUNER BAND	BS
		E207788-002SM	PUSH BUTTON	1	TUNER BAND	EF
		E207788-002SM	PUSH BUTTON	1	TUNER BAND	EN
		E207788-002SM	PUSH BUTTON	1	TUNER BAND	G
		E207788-002SM	PUSH BUTTON	1	TUNER BAND	GI
	21	E207858-001SM	PUSH BUTTON ASSY	1	TUNING / PRESET	
	22	E207794-001SM	PUSH BUTTON	1	POWER	
	23	E407098-001	SPECIAL SCREW	1		
	24	E207787-221	METAL COVER	1		
	25	SDSG3006M	SCREW	2		
	26	E73273-003	SPECIAL SCREW	19		
	27	E102616-003SS	CHASSIS BASE	1		
	28	E75896-006	FELT SPACER	2	REAR FOOT	
⚠	29	QHS3876-162	CORD STOPPER	1		A
⚠		QHS3876-162	CORD STOPPER	1		EF
⚠		QHS3876-162	CORD STOPPER	1		EN
⚠		QHS3876-162	CORD STOPPER	1		G
⚠		QHS3876-162	CORD STOPPER	1		GI
⚠		QHS3876-162BS	CORD STOPPER	1		BS
⚠	30	ETP1100-46EAJ	POWER TRANSFORMER	1	T001	A
⚠		ETP1100-46EAJ	POWER TRANSFORMER	1	T001	EF
⚠		ETP1100-46EAJ	POWER TRANSFORMER	1	T001	EN
⚠		ETP1100-46EAJ	POWER TRANSFORMER	1	T001	G
⚠		ETP1100-46EAJ	POWER TRANSFORMER	1	T001	GI
⚠		ETP1100-46EAJBS	POWER TRANSFORMER	1	T001	BS
	31	E72018-001	WIRE CLAMP	1		
	32	E65389-004	SPECIAL SCREW	4		
⚠	33	QMF51E2-1R0J1	FUSE	1	F001 (T1A / 250V)	A
⚠		QMF51E2-1R0J1BS	FUSE	1	F001 (T1A / 250V)	BS
⚠		QMF51E2-1R0J1	FUSE	1	F001 (T1A / 250V)	EF
⚠		QMF51E2-1R0J1	FUSE	1	F001 (T1A / 250V)	EN

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
⚠		QMF51E2-1R0J1	FUSE	1	F001 (T1A/250V)	G
⚠		QMF51E2-1R0J1	FUSE	1	F001 (T1A/250V)	GI
⚠	34	QMF51E2-1R25J1	FUSE	2	F101, F102 (T1.25A/250V)	A
⚠		QMF51E2-1R2J1BS	FUSE	2	F101, F102 (T1.25A/250V)	BS
⚠		QMF51E2-1R25J1	FUSE	2	F101, F102 (T1.25A/250V)	EF
⚠		QMF51E2-1R25J1	FUSE	2	F101, F102 (T1.25A/250V)	EN
⚠		QMF51E2-1R25J1	FUSE	2	F101, F102 (T1.25A/250V)	G
⚠		QMF51E2-1R25J1	FUSE	2	F101, F102 (T1.25A/250V)	GI
	35	E308544-001	FASTENER	1		
	36	E407434-001SM	LEAF SPRING	1		
	37	SBSG3014CC	SCREW	4		
	38	E308420-002SM	HEAT SINK	1		
	39	E207785-015SM	REAR PANEL	1		A
		E207785-015SM	REAR PANEL	1		BS
		E207785-014SM	REAR PANEL	1		EF
		E207785-014SM	REAR PANEL	1		EN
		E207785-014SM	REAR PANEL	1		G
		E207785-014SM	REAR PANEL	1		GI
	40	E207356-001SM	REAR COVER	1		
⚠	41	QMP25F0-244	POWER CORD	1		A
⚠		QMP5530-0085BS	POWER CORD	1		BS
⚠		QMP3900-200	POWER CORD	1		EF
⚠		QMP3900-200	POWER CORD	1		EN
⚠		QMP3900-200	POWER CORD	1		G
⚠		QMP3900-200	POWER CORD	1		GI
	–	E61029-005	NUMBER LABEL	1		
	–	QZL1031-101	SEV LABEL	1		EF
	–	E70027-001	APRROVAL LABEL	1		EN
	–	E407619-010	FTZ LABEL	1		G

⚠ SAFETY PARTS

The Marks for Designated Areas

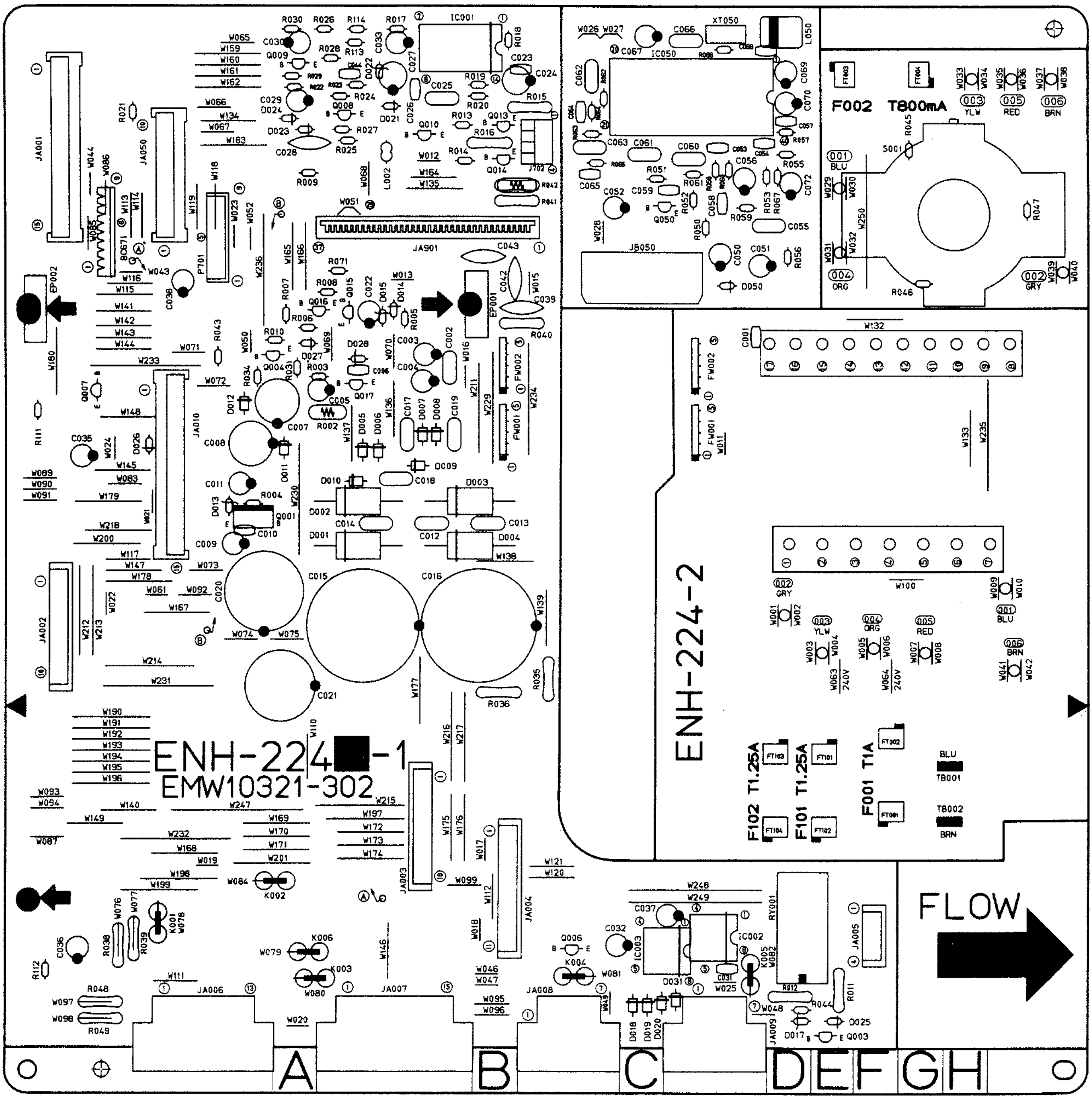
A	Australia	BS	the U.K.	EN	Scandinavia
EF	Continental Europe	G	Germany	GI	Itary

No mark indicates all areas.

Printed Circuit Board Ass'y and Parts List

■ENH-224☐ Main & Power Primary PC Board Ass'y

Note : ENH-224☐ varies according to the areas employed. See note (1) when placing an order.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EMW10321-302
ENH-224-2
F002 T800mA
F102 T1.25A
F101 T1.25A
F001 T1A
FLOW
A
B
C
D
E
F
G
H

Note (1)

PC Board Ass'y	Designated Areas
ENH-224 A	Scandinavia Continental Europe
ENH-224 B	Australia
ENH-224 C BS	the U.K.
ENH-224 D	Germany , Italy

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q001	2SB1357(E,F)	SILICON ROHM	
	Q003	2SC1740S(R,S)	SILICON ROHM	
	Q004	DTA144ES	SILICON ROHM	
	Q006	DTA123ES	SILICON ROHM	
	Q007	DTC114YS	SILICON ROHM	
	Q008	2SD2144S(VW)	SILICON ROHM	
	Q009	2SC1740S(R,S)	SILICON ROHM	
	Q010	DTA144ES	SILICON ROHM	
	Q013	2SD2144S(VW)	SILICON ROHM	
	Q014	2SD2144S(VW)	SILICON ROHM	
	Q015	DTC114YS	SILICON ROHM	
	Q016	DTC114YS	SILICON ROHM	
	Q017	2SC1741AS(QR)	SILICON ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC001	XR1097CP	I.C. EXAR JAPAN	
	IC002	LB1639-CV	I.C. SANYO	
	IC003	LB1639-CV	I.C. SANYO	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	D001	30DL2FC	SILICON NIHONINTER	
⚠	D002	30DL2FC	SILICON NIHONINTER	
⚠	D003	30DL2FC	SILICON NIHONINTER	
⚠	D004	30DL2FC	SILICON NIHONINTER	
	D005	1SR139-200	SILICON ROHM	
	D006	1SR139-200	SILICON ROHM	
	D007	1SR139-200	SILICON ROHM	
	D008	1SR139-200	SILICON ROHM	
	D009	1SR139-200	SILICON ROHM	
	D010	1SR139-200	SILICON ROHM	
	D011	1SR139-200	SILICON ROHM	
	D012	1SR139-200	SILICON ROHM	
	D013	MTZ30JC	ZENER ROHM	
	D014	1SS119	SILICON HITACHI	
	D015	MTZ5.1JC	ZENER ROHM	
	D017	MTZ7.5JC	ZENER ROHM	
	D018	1SR139-200	SILICON ROHM	
	D019	1SR139-200	SILICON ROHM	
	D020	1SR139-200	SILICON ROHM	
	D021	1SS119	SILICON HITACHI	
	D022	MTZ5.1JC	ZENER ROHM	
	D023	1SS119	SILICON HITACHI	
	D025	1SS119	SILICON HITACHI	
	D026	1SS119	SILICON HITACHI	
	D027	1SS119	SILICON HITACHI	
	D028	MTZ5.6JC	ZENER ROHM	
	D031	1SR139-200	SILICON ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C002	QFV81HJ-104	0.1MF 50V T.FILM	
	C003	QETB1HM-106	10MF 50V ELECTRO	
	C004	QETB1HM-106	10MF 50V ELECTRO	
	C005	QETB1HM-106	10MF 50V ELECTRO	
	C006	QCVB1CM-103	0.01MF 16V CERAMIC	
	C007	QETB1HM-227	220MF 50V ELECTRO	
	C008	QETB1HM-227	220MF 50V ELECTRO	
	C009	QETB1HM-226	22MF 50V ELECTRO	
	C010	QCGB1HK-102	1000PF 50V CERAMIC	
	C011	QETB1HM-226	22MF 50V ELECTRO	
	C012	QFV82AJ-104	0.1MF 100V T.FILM	
	C013	QFN81HJ-104	0.1MF 50V MYLAR	
	C014	QFN81HJ-104	0.1MF 50V MYLAR	
	C015	EEW4208-568E	5600MF ELECTRO	
	C016	EEW4208-568E	5600MF ELECTRO	
	C017	QFV81HJ-104	0.1MF 50V T.FILM	
	C018	QFV81HJ-104	0.1MF 50V T.FILM	
	C019	QFV81HJ-104	0.1MF 50V T.FILM	
	C020	QETB1VM-338	3300MF 35V ELECTRO	
	C021	QETB1VM-228N	2200MF 35V ELECTRO	
	C022	QETB1HM-225	2.2MF 50V ELECTRO	
	C023	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C024	QETB1AM-107	100MF 10V ELECTRO	
	C025	QFLB1HJ-102	1000PF 50V MYLAR	
	C026	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C027	QETB1AM-107	100MF 10V ELECTRO	
	C028	QCF21HP-473	0.047MF 50V CERAMIC	
	C029	QETB1HM-105	1MF 50V ELECTRO	
	C030	QETB1EM-106	10MF 25V ELECTRO	
	C031	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C032	QETB1AM-107	100MF 10V ELECTRO	
	C033	QETB1EM-106	10MF 25V ELECTRO	
	C035	QETB1HM-475	4.7MF 50V ELECTRO	
	C036	QETB1HM-475	4.7MF 50V ELECTRO	
	C037	QETB1HM-475	4.7MF 50V ELECTRO	
	C038	QETB1HM-475	4.7MF 50V ELECTRO	
	C039	QCY21HK-103	0.01MF 50V CERAMIC	A
	C039	QCY21HK-103	0.01MF 50V CERAMIC	B
	C039	QCY21HK-103	0.01MF 50V CERAMIC	CBS
	C042	QCY21HK-103	0.01MF 50V CERAMIC	A
	C042	QCY21HK-103	0.01MF 50V CERAMIC	B
	C042	QCY21HK-103	0.01MF 50V CERAMIC	CBS

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R002	PTH61G25AR4R7M	FUSIBLE RE	SI
	R003	QRD167J-223	22K 1/6W CARBON	
	R004	QRD167J-332	3.3K 1/6W CARBON	
	R005	QRD167J-103	10K 1/6W CARBON	
	R006	QRD167J-103	10K 1/6W CARBON	
	R007	QRD167J-102	1K 1/6W CARBON	
	R008	QRD167J-102	1K 1/6W CARBON	
	R009	QRD167J-152	1.5K 1/6W CARBON	
	R010	QRD167J-222	2.2K 1/6W CARBON	
⚠	R011	QRZ0077-271	270 1/4W FUSIBLE	
⚠	R012	QRD14CJ-331S	330 1/4W UNF.CARBON	
	R013	QRD167J-272	2.7K 1/6W CARBON	
	R014	QRD167J-272	2.7K 1/6W CARBON	
⚠	R015	QRD14CJ-681S	680 1/4W UNF.CARBON	
⚠	R016	QRD14CJ-681S	680 1/4W UNF.CARBON	
	R017	QRD167J-223	22K 1/6W CARBON	
	R018	QRD167J-223	22K 1/6W CARBON	
	R019	QRD167J-563	56K 1/6W CARBON	
	R020	QRD167J-152	1.5K 1/6W CARBON	
	R021	QRD167J-331	330 1/6W CARBON	
	R022	QRD167J-512	5.1K 1/6W CARBON	
	R023	QRD167J-562	5.6K 1/6W CARBON	
	R024	QRD167J-104	100K 1/6W CARBON	
	R025	QRD167J-103	10K 1/6W CARBON	
	R026	QRD167J-133	13K 1/6W CARBON	
	R027	QRD167J-104	100K 1/6W CARBON	
	R028	QRD167J-102	1K 1/6W CARBON	
	R029	QRD167J-204	200K 1/6W CARBON	
	R030	QRD167J-224	220K 1/6W CARBON	
	R031	QRD167J-222	2.2K 1/6W CARBON	
	R034	QRD167J-472	4.7K 1/6W CARBON	
	R035	QRD12CJ-331S	330 1/2W R.NETWORK	
	R036	QRD12CJ-331S	330 1/2W R.NETWORK	
⚠	R040	QRD14CJ-1R0S	1 1/4W UNF.CARBON	
⚠	R041	QRZ0077-8R2	8.2 1/4W FUSIBLE	
	R042	PTH8L07BB2R2N1B	POSITIVE T	HE
	R043	QRD167J-103	10K 1/6W CARBON	
⚠	R048	QRZ0077-4R7	4.7 1/4W FUSIBLE	
	R071	QRD167J-222	2.2K 1/6W CARBON	
	R111	QRD167J-563	56K 1/6W CARBON	
	R112	QRD167J-563	56K 1/6W CARBON	
	R113	QRD167J-513	51K 1/6W CARBON	
	R114	QRD167J-513	51K 1/6W CARBON	

⚠ : SAFETY PARTS

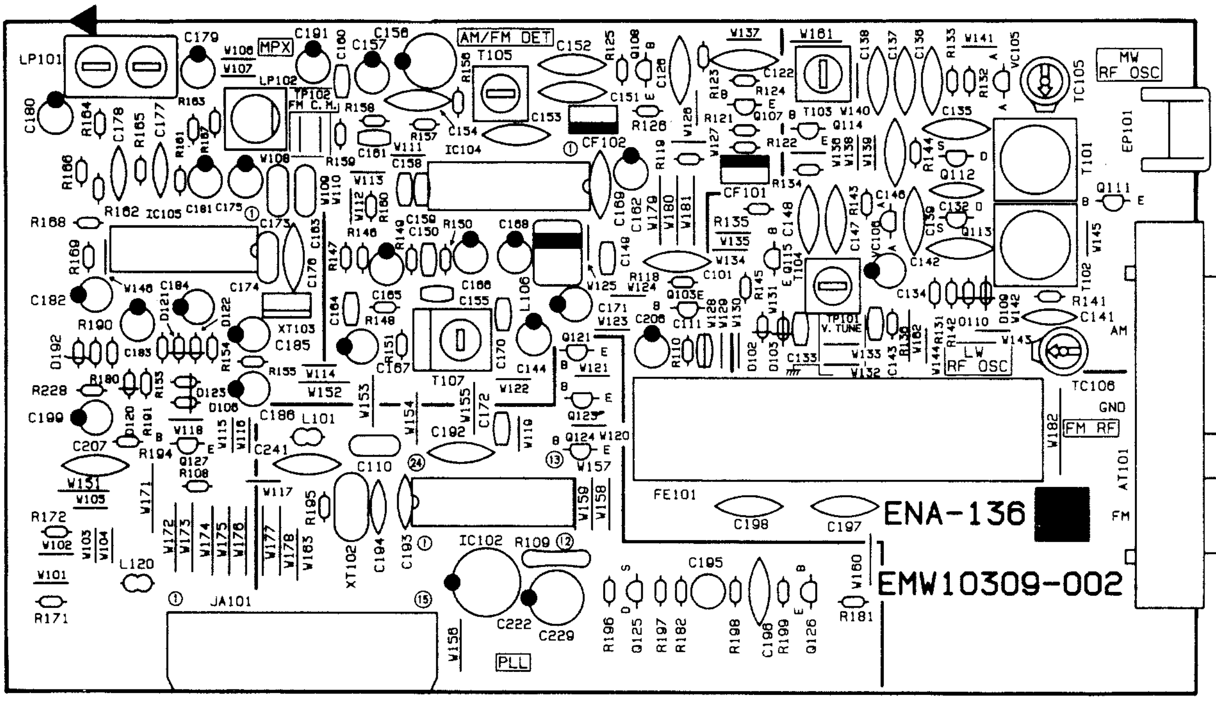
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E33754-001	TIE BAND	
	J702	EMV7122-004	CONNECTOR(4PIN)	
	K002	ENZ8101-007	INDUCTOR	D
	K006	ENZ8101-007	INDUCTOR	D
	L002	EQL4004-1R0	INDUCTOR	
	P701	EMV5142-905	PLUG ASSY(9PIN)	
	BC671	EWS296-0118	SOCKET WIRE(9PIN)	
	EP001	E70859-001	EARTH PLATE	A
	EP001	E70859-001	EARTH PLATE	B
	EP001	E70859-001	EARTH PLATE	CBS
	EP002	E70859-001	EARTH PLATE	
	FT001	VMZ0087-001	FUSE CLIP	
	FT002	VMZ0087-001	FUSE CLIP	
	FT101	VMZ0087-001	FUSE CLIP	
	FT102	VMZ0087-001	FUSE CLIP	
	FT103	VMZ0087-001	FUSE CLIP	
	FT104	VMZ0087-001	FUSE CLIP	
	FW001	EWR35B-16SST	FLAT WIRE(5PIN)	
	FW002	EWR35B-16SST	FLAT WIRE(5PIN)	
	JA001	EMV5140-015	PLUG ASSY(15PIN)	
	JA002	EMV5125-010	PLUG ASSY(10PIN)	
	JA003	EMV5125-010	PLUG ASSY(10PIN)	
	JA004	EMV5125-011	PLUG ASSY(11PIN)	
	JA005	EMV5125-004	PLUG ASSY(4PIN)	
	JA006	EMV7127-013	CONNECTOR(13PIN)	
	JA007	EMV7127-015	CONNECTOR(15PIN)	
	JA008	EMV7127-007	CONNECTOR(7PIN)	
	JA009	EMV7127-007	CONNECTOR(7PIN)	
	JA010	EMV5140-015	PLUG ASSY(15PIN)	
	JA901	EMV7123-037	CONNECTOR(37PIN)	
	RY001	ESK7D24-2120	RELAY	
	TB001	EMZ4001-001	TAB	
	TB002	EMZ4001-001	TAB	

⚠ : SAFETY PARTS

■ENA-136☐ Tuner PC Board Ass'y

Note : ENA-136☐ varies according to the areas employed. See note (1) when placing an order.


LP101
C179
MPX
C191
C156
AM/FM DET
T105
C152
MW RF OSC
TC105
VC105
W137
W161
LP102
TP102 FM C.M.
IC104
CF102
CF101
IC105
XT103
T107
L106
T104
TP101 V. TUNE
LW RF OSC
T101
T102
EP101
Q111
Q112
Q113
TC106
GND
AM
FM RF
AT101
FM
FE101
ENA-136
EMW10309-002
IC102
C222
C229
JA101
PLL
L101
L120
C110
C198
C197
C195
R171
R172
R181
Q125
Q126
Q127

Note (1)

PC Board Ass'y	Designated Areas
ENA-136 C	Australia
ENA-136 D	Scandinavia Continental Europe
ENA-136 E	Germany
ENA-136 F	the U.K.
ENA-136 G	Italy

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q103	2SC461(B,C)	SILICON	HITACHI	
	Q107	2SC535(B,C)	SILICON	HITACHI	
	Q108	2SC461(B,C)	SILICON	HITACHI	
	Q111	2SD2144S(VW)	SILICON	ROHM	D
	Q111	2SD2144S(VW)	SILICON	ROHM	E
	Q111	2SD2144S(VW)	SILICON	ROHM	F
	Q111	2SD2144S(VW)	SILICON	ROHM	G
	Q112	2SK301(Q,R)	F.E.T	MATSUSHITA	
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	D
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	E
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	F
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	G
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	D
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	E
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	F
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	G
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	D
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	E
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	F
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	G
	Q121	DTA144ES	SILICON	ROHM	D
	Q121	DTA144ES	SILICON	ROHM	E
	Q121	DTA144ES	SILICON	ROHM	F
	Q121	DTA144ES	SILICON	ROHM	G
	Q123	DTA144ES	SILICON	ROHM	
	Q124	DTA144ES	SILICON	ROHM	
	Q125	2SK301(Q2)	F.E.T	MATSUSHITA	
	Q126	2SC458(D)	SILICON	HITACHI	
	Q127	DTC144ES	SILICON	ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	IC102	LC7218	I.C.	SANYO	
	IC104	LA1266A	I.C.	SANYO	
	IC105	LA3401	I.C.	SANYO	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D102	1SS119	SILICON	HITACHI	D
	D102	1SS119	SILICON	HITACHI	E
	D102	1SS119	SILICON	HITACHI	F
	D102	1SS119	SILICON	HITACHI	G
	D103	1SS119	SILICON	HITACHI	D
	D103	1SS119	SILICON	HITACHI	E
	D103	1SS119	SILICON	HITACHI	F
	D103	1SS119	SILICON	HITACHI	G
	D106	1SS119	SILICON	HITACHI	
	D109	1SS119	SILICON	HITACHI	D
	D109	1SS119	SILICON	HITACHI	E
	D109	1SS119	SILICON	HITACHI	F
	D109	1SS119	SILICON	HITACHI	G
	D110	1SS119	SILICON	HITACHI	D
	D110	1SS119	SILICON	HITACHI	E
	D110	1SS119	SILICON	HITACHI	F
	D110	1SS119	SILICON	HITACHI	G
	D120	1SS119	SILICON	HITACHI	
	D121	1SS119	SILICON	HITACHI	
	D122	1SS119	SILICON	HITACHI	
	D123	1SS119	SILICON	HITACHI	
	D192	MTZ5.1JC	ZENER	ROHM	
	VC105	SVC342(L)	VARICAP	SANYO	
	VC106	SVC342(L)	VARICAP	SANYO	D
	VC106	SVC342(L)	VARICAP	SANYO	E
	VC106	SVC342(L)	VARICAP	SANYO	F
	VC106	SVC342(L)	VARICAP	SANYO	G

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C101	QCF21HP-223	0.022MF	50V	CERAMIC	
	C110	QCZ0202-155	1.5MF	25V	CERAMIC	
	C122	QCF21HP-223	0.022MF	50V	CERAMIC	
	C126	QCF21HP-223	0.022MF	50V	CERAMIC	
	C132	QCS21HJ-561	560PF	50V	CERAMIC	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C133	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C134	QETB1EM-106	10MF 25V ELECTRO	
	C135	QCC21EM-223	0.022MF 25V CERAMIC	
	C136	QCT26CH-180	18PF 50V CERAMIC	
	C137	QCT26CH-221	220PF 50V CERAMIC	
	C138	QCT26CH-241	240PF 50V CERAMIC	
	C139	QCC21EM-223	0.022MF 25V CERAMIC	D
	C139	QCC21EM-223	0.022MF 25V CERAMIC	E
	C139	QCC21EM-223	0.022MF 25V CERAMIC	F
	C139	QCC21EM-223	0.022MF 25V CERAMIC	G
	C141	QCS21HJ-270	27PF 50V CERAMIC	D
	C141	QCS21HJ-270	27PF 50V CERAMIC	E
	C141	QCS21HJ-270	27PF 50V CERAMIC	F
	C141	QCS21HJ-270	27PF 50V CERAMIC	G
	C142	QCY21HK-272	2700PF 50V CERAMIC	D
	C142	QCY21HK-272	2700PF 50V CERAMIC	E
	C142	QCY21HK-272	2700PF 50V CERAMIC	F
	C142	QCY21HK-272	2700PF 50V CERAMIC	G
	C143	QCHB1EZ-223	0.022MF 25V CERAMIC	D
	C143	QCHB1EZ-223	0.022MF 25V CERAMIC	E
	C143	QCHB1EZ-223	0.022MF 25V CERAMIC	F
	C143	QCHB1EZ-223	0.022MF 25V CERAMIC	G
	C144	QETB1EM-106	10MF 25V ELECTRO	D
	C144	QETB1EM-106	10MF 25V ELECTRO	E
	C144	QETB1EM-106	10MF 25V ELECTRO	F
	C144	QETB1EM-106	10MF 25V ELECTRO	G
	C146	QCT26CH-680	68PF 50V CERAMIC	D
	C146	QCT26CH-680	68PF 50V CERAMIC	E
	C146	QCT26CH-680	68PF 50V CERAMIC	F
	C146	QCT26CH-680	68PF 50V CERAMIC	G
	C147	QCT26CH-220	22PF 50V CERAMIC	D
	C147	QCT26CH-220	22PF 50V CERAMIC	E
	C147	QCT26CH-220	22PF 50V CERAMIC	F
	C147	QCT26CH-220	22PF 50V CERAMIC	G
	C148	QCT26CH-121	120PF 50V CERAMIC	D
	C148	QCT26CH-121	120PF 50V CERAMIC	E
	C148	QCT26CH-121	120PF 50V CERAMIC	F
	C148	QCT26CH-121	120PF 50V CERAMIC	G
	C149	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C150	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C151	QCF21HP-223	0.022MF 50V CERAMIC	
	C152	QCF21HP-223	0.022MF 50V CERAMIC	
	C153	QCC21EM-223	0.022MF 25V CERAMIC	
	C154	QCF21HP-223	0.022MF 50V CERAMIC	
	C155	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C156	QETB1CM-227	220MF 16V ELECTRO	
	C157	QETB1HM-474	0.47MF 50V ELECTRO	
	C158	QCBB1HK-101	100PF 50V CERAMIC	
	C159	QCBB1HK-101	100PF 50V CERAMIC	
	C160	QCBB1HK-221	220PF 50V CERAMIC	
	C161	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C162	QETB1EM-106	10MF 25V ELECTRO	
	C163	QFLB1HJ-102	1000PF 50V MYLAR	
	C164	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C165	QETB1HM-474	0.47MF 50V ELECTRO	
	C166	QETB1HM-225	2.2MF 50V ELECTRO	
	C167	QETB1HM-225	2.2MF 50V ELECTRO	
	C168	QETB1HM-475	4.7MF 50V ELECTRO	
	C169	QCF21HP-223	0.022MF 50V CERAMIC	
	C170	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C171	QETB1EM-106	10MF 25V ELECTRO	
	C172	QCVB1CM-103	0.01MF 16V CERAMIC	
	C173	QFLB1HJ-223	0.022MF 50V MYLAR	
	C174	QFLB1HJ-473	0.047MF 50V MYLAR	
	C175	QETB1EM-106	10MF 25V ELECTRO	
	C176	QCY21HK-102	1000PF 50V CERAMIC	
	C177	QCS21HJ-561	560PF 50V CERAMIC	C
	C177	QCS21HJ-561	560PF 50V CERAMIC	D
	C177	QCS21HJ-561	560PF 50V CERAMIC	E
	C177	QCS21HJ-821	820PF 50V CERAMIC	F
	C177	QCS21HJ-561	560PF 50V CERAMIC	G
	C178	QCS21HJ-561	560PF 50V CERAMIC	C
	C178	QCS21HJ-561	560PF 50V CERAMIC	D
	C178	QCS21HJ-561	560PF 50V CERAMIC	E
	C178	QCS21HJ-821	820PF 50V CERAMIC	F
	C178	QCS21HJ-561	560PF 50V CERAMIC	G
	C179	QETB1HM-225	2.2MF 50V ELECTRO	
	C180	QETB1HM-225	2.2MF 50V ELECTRO	
	C181	QETB1EM-106	10MF 25V ELECTRO	
	C182	QETB1HM-225	2.2MF 50V ELECTRO	
	C183	QETB1HM-105	1MF 50V ELECTRO	
	C184	QETB1HM-105	1MF 50V ELECTRO	
	C185	QETB1HM-225	2.2MF 50V ELECTRO	
	C186	QETB1HM-474	0.47MF 50V ELECTRO	
	C191	QETB1HM-475	4.7MF 50V ELECTRO	
	C192	QCC21EM-473	0.047MF 25V CERAMIC	
	C193	QCS21HJ-180	18PF 50V CERAMIC	
	C194	QCS21HJ-180	18PF 50V CERAMIC	
	C195	QENB1HM-474	0.47MF 50V NON POLE	
	C196	QCY21HK-102	1000PF 50V CERAMIC	
	C197	QCF21HP-223	0.022MF 50V CERAMIC	
	C198	QCF21HP-103	0.01MF 50V CERAMIC	
	C199	QETB1HM-475	4.7MF 50V ELECTRO	
	C206	QETB1HM-476	47MF 50V ELECTRO	E
	C206	QETB1HM-476	47MF 50V ELECTRO	G

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C207	QCF21HP-223	0.022MF 50V CERAMIC	
	C222	QETB1CM-477	470MF 16V ELECTRO	
	C229	QETB1CM-227	220MF 16V ELECTRO	
	C241	QCF21HP-223	0.022MF 50V CERAMIC	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R108	QRD167J-103	10K 1/6W CARBON	
⚠	R109	QRZ0077-680	68 1/4W FUSIBLE	
	R118	QRD167J-332	3.3K 1/6W CARBON	
	R119	QRD161J-221	220 1/6W CARBON	
	R121	QRD167J-391	390 1/6W CARBON	
	R122	QRD167J-272	2.7K 1/6W CARBON	
	R123	QRD167J-102	1K 1/6W CARBON	
	R124	QRD167J-681	680 1/6W CARBON	
	R125	QRD167J-332	3.3K 1/6W CARBON	
	R126	QRD161J-221	220 1/6W CARBON	
	R131	QRD167J-331	330 1/6W CARBON	
	R132	QRD167J-103	10K 1/6W CARBON	
	R133	QRD167J-473	47K 1/6W CARBON	
	R134	QRD167J-103	10K 1/6W CARBON	D
	R134	QRD167J-103	10K 1/6W CARBON	E
	R134	QRD167J-103	10K 1/6W CARBON	F
	R134	QRD167J-103	10K 1/6W CARBON	G
	R135	QRD167J-470	47 1/6W CARBON	
	R136	QRD167J-103	10K 1/6W CARBON	
	R141	QRD167J-472	4.7K 1/6W CARBON	D
	R141	QRD167J-472	4.7K 1/6W CARBON	E
	R141	QRD167J-472	4.7K 1/6W CARBON	F
	R141	QRD167J-472	4.7K 1/6W CARBON	G
	R142	QRD167J-331	330 1/6W CARBON	D
	R142	QRD167J-331	330 1/6W CARBON	E
	R142	QRD167J-331	330 1/6W CARBON	F
	R142	QRD167J-331	330 1/6W CARBON	G
	R143	QRD167J-103	10K 1/6W CARBON	D
	R143	QRD167J-103	10K 1/6W CARBON	E
	R143	QRD167J-103	10K 1/6W CARBON	F
	R143	QRD167J-103	10K 1/6W CARBON	G
	R144	QRD167J-473	47K 1/6W CARBON	D
	R144	QRD167J-473	47K 1/6W CARBON	E
	R144	QRD167J-473	47K 1/6W CARBON	F
	R144	QRD167J-473	47K 1/6W CARBON	G
	R145	QRD167J-103	10K 1/6W CARBON	D
	R145	QRD167J-103	10K 1/6W CARBON	E
	R145	QRD167J-103	10K 1/6W CARBON	F
	R145	QRD167J-103	10K 1/6W CARBON	G
	R146	QRD167J-560	56 1/6W CARBON	
	R147	QRD167J-103	10K 1/6W CARBON	
	R148	QRD167J-103	10K 1/6W CARBON	
	R149	QRD167J-223	22K 1/6W CARBON	C
	R149	QRD167J-223	22K 1/6W CARBON	D
	R149	QRD167J-273	27K 1/6W CARBON	E
	R149	QRD167J-223	22K 1/6W CARBON	F
	R149	QRD167J-273	27K 1/6W CARBON	G
	R150	QRD167J-103	10K 1/6W CARBON	
	R151	QRD167J-222	2.2K 1/6W CARBON	
	R153	QRD167J-103	10K 1/6W CARBON	
	R154	QRD167J-103	10K 1/6W CARBON	
	R155	QRD167J-562	5.6K 1/6W CARBON	
	R156	QRD167J-822	8.2K 1/6W CARBON	
	R157	QRD167J-103	10K 1/6W CARBON	
	R158	QRD167J-273	27K 1/6W CARBON	
	R159	QRD167J-561	560 1/6W CARBON	
	R160	QRD167J-103	10K 1/6W CARBON	C
	R160	QRD167J-103	10K 1/6W CARBON	D
	R160	QRD167J-103	10K 1/6W CARBON	E
	R160	QRD167J-102	1K 1/6W CARBON	F
	R160	QRD167J-103	10K 1/6W CARBON	G
	R161	QRD167J-104	100K 1/6W CARBON	C
	R161	QRD167J-104	100K 1/6W CARBON	D
	R161	QRD167J-104	100K 1/6W CARBON	E
	R161	QRD167J-683	68K 1/6W CARBON	F
	R161	QRD167J-104	100K 1/6W CARBON	G
	R162	QRD167J-104	100K 1/6W CARBON	C
	R162	QRD167J-104	100K 1/6W CARBON	D
	R162	QRD167J-104	100K 1/6W CARBON	E
	R162	QRD167J-683	68K 1/6W CARBON	F
	R162	QRD167J-104	100K 1/6W CARBON	G
	R163	QRD167J-332	3.3K 1/6W CARBON	
	R164	QRD167J-332	3.3K 1/6W CARBON	
	R165	QRD167J-274	270K 1/6W CARBON	
	R166	QRD167J-274	270K 1/6W CARBON	
	R167	QRD167J-473	47K 1/6W CARBON	
	R168	QRD167J-103	10K 1/6W CARBON	
	R169	QRD167J-103	10K 1/6W CARBON	
	R171	QRD167J-682	6.8K 1/6W CARBON	
	R172	QRD167J-682	6.8K 1/6W CARBON	
	R180	QRD167J-103	10K 1/6W CARBON	
	R181	QRD167J-222	2.2K 1/6W CARBON	
	R182	QRD167J-181	180 1/6W CARBON	
	R190	QRD167J-103	10K 1/6W CARBON	
	R191	QRD167J-562	5.6K 1/6W CARBON	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R194	QRD167J-103	10K 1/6W CARBON	
	R195	QRD167J-473	47K 1/6W CARBON	
	R196	QRD167J-103	10K 1/6W CARBON	C
	R196	QRD167J-222	2.2K 1/6W CARBON	D
	R196	QRD167J-222	2.2K 1/6W CARBON	E
	R196	QRD167J-222	2.2K 1/6W CARBON	F
	R196	QRD167J-222	2.2K 1/6W CARBON	G
	R197	QRD167J-222	2.2K 1/6W CARBON	
	R198	QRD167J-332	3.3K 1/6W CARBON	C
	R198	QRD167J-822	8.2K 1/6W CARBON	D
	R198	QRD167J-822	8.2K 1/6W CARBON	E
	R198	QRD167J-822	8.2K 1/6W CARBON	F
	R198	QRD167J-822	8.2K 1/6W CARBON	G
	R199	QRD167J-472	4.7K 1/6W CARBON	
	R228	QRD167J-222	2.2K 1/6W CARBON	

⚠ : SAFETY PARTS

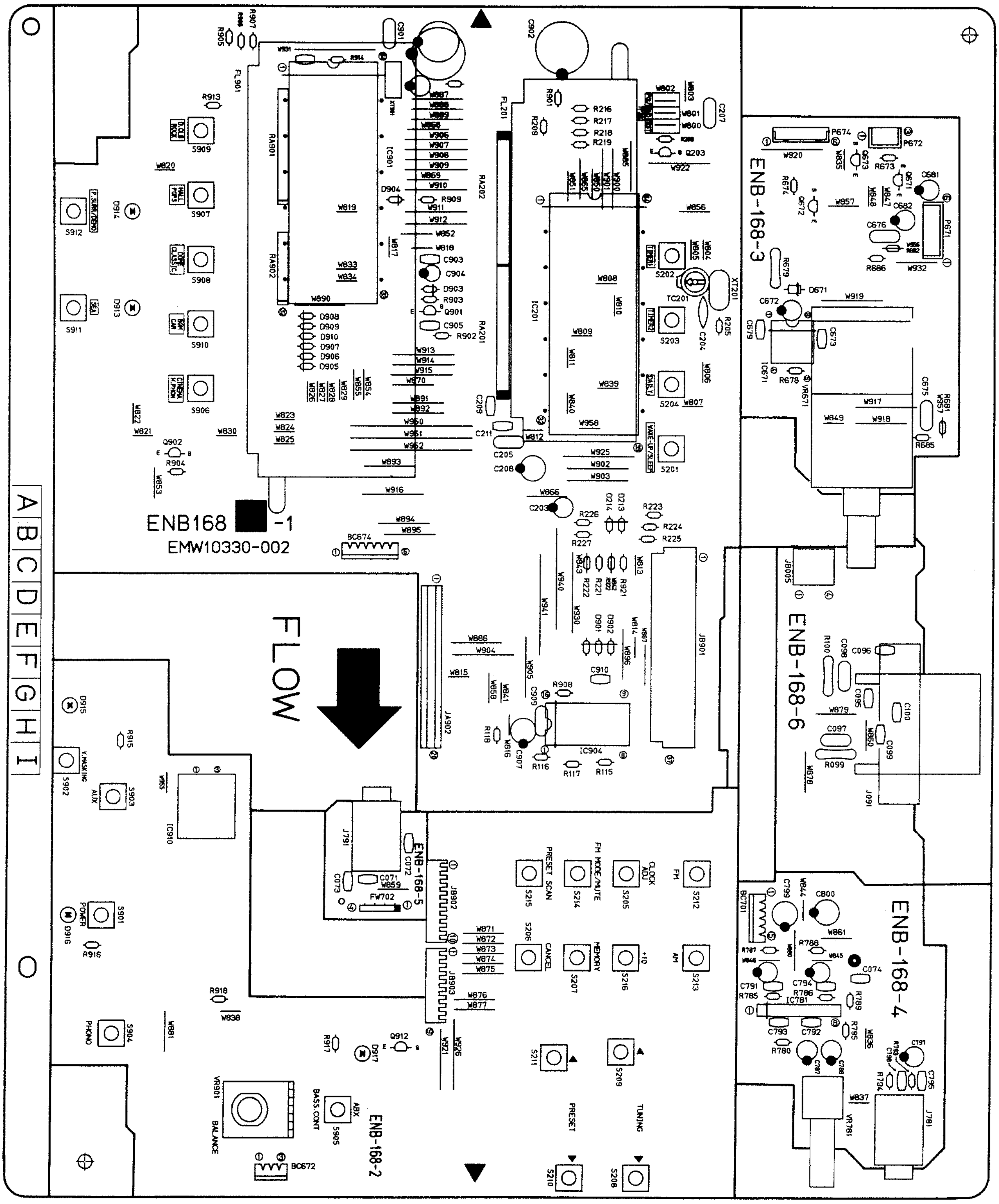
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	L101	EQL4004-1R0	INDUCTOR	
	L106	EQL3001-102K	INDUCTOR	
	L110	EQL4004-100	INDUCTOR	E
	L110	EQL4004-100	INDUCTOR	G
	L120	EQL4004-1R0	INDUCTOR	
	T101	EQR1111-014	AM RF COIL	
	T102	EQR1111-005	AM RF COIL	D
	T102	EQR1111-005	AM RF COIL	E
	T102	EQR1111-005	AM RF COIL	F
	T102	EQR1111-005	AM RF COIL	G
	T103	EQR1207-017	MW OSC COIL	
	T104	EQR1307-010	LW OSC COIL	D
	T104	EQR1307-010	LW OSC COIL	E
	T104	EQR1307-010	LW OSC COIL	F
	T104	EQR1307-010	LW OSC COIL	G
	T105	EQT2140-017	I.F. TRANSFORMER	
	T107	ECB1560-010	CERAMIC FILTER	
	AT101	EMB01YV-305K	ANTENNA TERMINAL	
	CF101	ECB2123-006R	CERAMIC FILTER	C
	CF101	ECB2118-007R	CERAMIC FILTER	D
	CF101	ECB2118-007R	CERAMIC FILTER	E
	CF101	ECB2118-007R	CERAMIC FILTER	F
	CF101	ECB2118-007R	CERAMIC FILTER	G
	CF102	ECB2123-006R	CERAMIC FILTER	C
	CF102	ECB2118-007R	CERAMIC FILTER	D
	CF102	ECB2118-007R	CERAMIC FILTER	E
	CF102	ECB2118-007R	CERAMIC FILTER	F
	CF102	ECB2118-007R	CERAMIC FILTER	G
	EP101	E70225-001	EARTH PLATE	
	FE101	EAF2203-001	FRONT END	C
	FE101	EAF2203-001	FRONT END	D
	FE101	EAF2203-003	FRONT END	E
	FE101	EAF2203-001	FRONT END	F
	FE101	EAF2203-003	FRONT END	G
	JA101	EMV7140-L15R	CONNECTOR(15PIN) TO MAIN PCB	
	LP101	EQF0101-002	LOW PASS FILTER	
	LP102	EQF0102-001	LOW PASS FILTER	E
	LP102	EQF0102-001	LOW PASS FILTER	G
	TC105	ENZ1003-006	TRIMMER	
	TC106	ENZ1003-006	TRIMMER	D
	TC106	ENZ1003-006	TRIMMER	E
	TC106	ENZ1003-006	TRIMMER	F
	TC106	ENZ1003-006	TRIMMER	G
	XT102	ECX0007-200KCTJ	RESONATOR	
	XT103	ECX0000-456KR	RESONATOR	

⚠ : SAFETY PARTS

■ENB-168☐ Display, Mic AMP. & Volume PC Board Ass'y

Note : ENB-168☐ varies according to the areas employed. See note (1) when placing an order.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ENB-168-4
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VR671
BC674
JB005
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JA902
IC904
J091
IC910
J791
FW702
JB902
JB903
PRESET SCAN
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FM MODE/MUTE
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CLOCK ADJ
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MEMORY
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S208
AUX
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Y.MASKING
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D915
POWER
S901
D916
PHONO
S904
VR901
BALANCE
ABX
BASS.CONT
S905
D917
Q912
BC672
BC701
IC781
VR781
J781

Note (1)

PC Board Ass'y	Designated Areas
ENB-168 A	Scandinavia Continental Europe
ENB-168 B	Australia
ENB-168 C	the U.K.
ENB-168 D	Germany
ENB-168 E	Italy

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q203	DTA114YS	SILICON ROHM	
	Q671	2SD2144S(VW)	SILICON ROHM	
	Q672	2SD2144S(VW)	SILICON ROHM	
	Q673	DTA144ES	SILICON ROHM	
	Q901	DTC114YS	SILICON ROHM	
	Q902	DTC144ES	SILICON ROHM	
	Q912	DTC114YS	SILICON ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC201	HD614089SD51	I.C. HITACHI	
	IC671	LB1639-CV	I.C. SANYO	
	IC781	XRA15218N	I.C. EXAR JAPAN	
	IC901	MN171202JHG	I.C. MATSUSHITA	
	IC904	TC74HC595AP	I.C. TOSHIBA	
	IC910	SPS-420-1	I.C. SANYO	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D213	1SS119	SILICON HITACHI	B
	D214	1SS119	SILICON HITACHI	E
	D671	1SR139-200	SILICON ROHM	
	D901	1SS119	SILICON HITACHI	
	D902	1SS119	SILICON HITACHI	
	D903	1SS119	SILICON HITACHI	
	D904	1SS119	SILICON HITACHI	
	D905	1SS119	SILICON HITACHI	
	D906	1SS119	SILICON HITACHI	
	D907	1SS119	SILICON HITACHI	
	D908	1SS119	SILICON HITACHI	
	D909	1SS119	SILICON HITACHI	
	D910	1SS119	SILICON HITACHI	
	D913	SLR-342VC3F	L.E.D. ROHM	
	D914	SLR-342VC3F	L.E.D. ROHM	
	D915	SLR-342VC3F	L.E.D. ROHM	
	D916	SLR-342VC3F	L.E.D. ROHM	A
	D916	SLR-342VC3F	L.E.D. ROHM	B
	D916	SLA-580LT3F	L.E.D. ROHM	C
	D916	SLR-342VC3F	L.E.D. ROHM	D
	D916	SLR-342VC3F	L.E.D. ROHM	E
	D917	SLR-342VC3F	L.E.D. ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C071	QCGB1HK-102	1000PF 50V CERAMIC	
	C072	QCGB1HK-102	1000PF 50V CERAMIC	
	C074	QCVB1CM-103	0.01MF 16V CERAMIC	
	C095	QCHB1EZ-223	0.022MF 25V CERAMIC	D
	C095	QCHB1EZ-223	0.022MF 25V CERAMIC	E
	C096	QCHB1EZ-223	0.022MF 25V CERAMIC	D
	C096	QCHB1EZ-223	0.022MF 25V CERAMIC	E
	C097	QFLB1HJ-103	0.01MF 50V MYLAR	D
	C097	QFLB1HJ-103	0.01MF 50V MYLAR	E
	C098	QFLB1HJ-103	0.01MF 50V MYLAR	D
	C098	QFLB1HJ-103	0.01MF 50V MYLAR	E
	C099	QCBB1HK-331	330PF 50V CERAMIC	D
	C099	QCBB1HK-331	330PF 50V CERAMIC	E
	C100	QCBB1HK-331	330PF 50V CERAMIC	D
	C100	QCBB1HK-331	330PF 50V CERAMIC	E

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C203	QETB1HM-474	0.47MF 50V ELECTRO	
	C204	QCT26CH-120	12PF 50V CERAMIC	
	C205	QCZ0202-155	1.5MF 25V CERAMIC	
	C207	QCZ0202-155	1.5MF 25V CERAMIC	
	C208	QETB1AM-227	220MF 10V ELECTRO	
	C209	QCVB1CM-103	0.01MF 16V CERAMIC	
	C211	QCVB1CM-103	0.01MF 16V CERAMIC	
	C672	QETB1AM-476	47MF 10V ELECTRO	
	C673	QCVB1CM-103	0.01MF 16V CERAMIC	
	C675	QETB1HM-474	0.47MF 50V ELECTRO	
	C676	QETB1HM-474	0.47MF 50V ELECTRO	
	C679	QCGB1HK-102	1000PF 50V CERAMIC	
	C681	EEZ5009-106	10MF ELECTRO	
	C682	EEZ5009-106	10MF ELECTRO	
	C787	QEK51EM-106	10MF 25V ELECTRO	
	C788	QEK51EM-106	10MF 25V ELECTRO	
	C791	QCBB1HK-101	100PF 50V CERAMIC	
	C792	QCBB1HK-101	100PF 50V CERAMIC	
	C793	QCBB1HK-101	100PF 50V CERAMIC	
	C794	QCBB1HK-101	100PF 50V CERAMIC	
	C795	QCGB1HK-102	1000PF 50V CERAMIC	
	C797	QEK51EM-106	10MF 25V ELECTRO	
	C798	QCGB1HK-102	1000PF 50V CERAMIC	
	C799	QER51CM-476	47MF 16V ELECTRO	
	C800	QER51CM-476	47MF 16V ELECTRO	
	C901	QCZ0205-155	1.5MF 25V CERAMIC	
	C902	QEA40HZ-10AB	ELECTRO	
	C903	QCVB1CM-103	0.01MF 16V CERAMIC	
	C904	QETB1HM-225	2.2MF 50V ELECTRO	
	C905	QCVB1CM-103	0.01MF 16V CERAMIC	
	C907	QER50JM-107	100MF 6.3V ELECTRO	
	C909	QCZ0202-155	1.5MF 25V CERAMIC	
	C910	QCBB1HK-561	560PF 50V CERAMIC	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R099	QRD14CJ-100S	10 1/4W UNF.CARBON	D
⚠	R099	QRD14CJ-100S	10 1/4W UNF.CARBON	E
⚠	R100	QRD14CJ-100S	10 1/4W UNF.CARBON	D
⚠	R100	QRD14CJ-100S	10 1/4W UNF.CARBON	E
	R115	QRD167J-331	330 1/6W CARBON	
	R116	QRD167J-331	330 1/6W CARBON	
	R117	QRD167J-331	330 1/6W CARBON	
	R118	QRD167J-331	330 1/6W CARBON	
	R205	QRD167J-473	47K 1/6W CARBON	
	R208	QRD167J-473	47K 1/6W CARBON	
	R209	QRD167J-104	100K 1/6W CARBON	
	R226	QRD167J-473	47K 1/6W CARBON	
	R673	QRD167J-103	10K 1/6W CARBON	
	R674	QRD167J-103	10K 1/6W CARBON	
	R678	QRD161J-221	220 1/6W CARBON	
⚠	R679	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	
	R681	QRD167J-272	2.7K 1/6W CARBON	
	R682	QRD167J-272	2.7K 1/6W CARBON	
	R685	QRD167J-123	12K 1/6W CARBON	
	R686	QRD167J-123	12K 1/6W CARBON	
	R780	QRD167J-471	470 1/6W CARBON	
	R785	QRD167J-104	100K 1/6W CARBON	
	R786	QRD167J-104	100K 1/6W CARBON	
	R787	QRD167J-202	2K 1/6W CARBON	
	R788	QRD167J-124	120K 1/6W CARBON	
	R789	QRD167J-473	47K 1/6W CARBON	
	R793	QRD167J-102	1K 1/6W CARBON	
	R794	QRD167J-103	10K 1/6W CARBON	
	R795	QRD167J-331	330 1/6W CARBON	
	R901	QRD167J-470	47 1/6W CARBON	
	R902	QRD167J-103	10K 1/6W CARBON	
	R903	QRD167J-104	100K 1/6W CARBON	
	R904	QRD167J-104	100K 1/6W CARBON	
	R905	QRD167J-473	47K 1/6W CARBON	
	R906	QRD167J-473	47K 1/6W CARBON	
	R907	QRD167J-473	47K 1/6W CARBON	
	R908	QRD167J-473	47K 1/6W CARBON	
	R909	QRD167J-473	47K 1/6W CARBON	
	R913	QRD167J-241	240 1/6W CARBON	
	R914	QRD167J-241	240 1/6W CARBON	
	R915	QRD167J-241	240 1/6W CARBON	
	R916	QRD167J-241	240 1/6W CARBON	
	R917	QRD167J-241	240 1/6W CARBON	
	R918	QRD167J-473	47K 1/6W CARBON	
	VR671	QVDB94B-E15C	100K VARIABLE	
	VR781	QVAB80B-E54D	50K VARIABLE	
	VR901	QVJB84W-E15C	100K VARIABLE	

⚠ : SAFETY PARTS

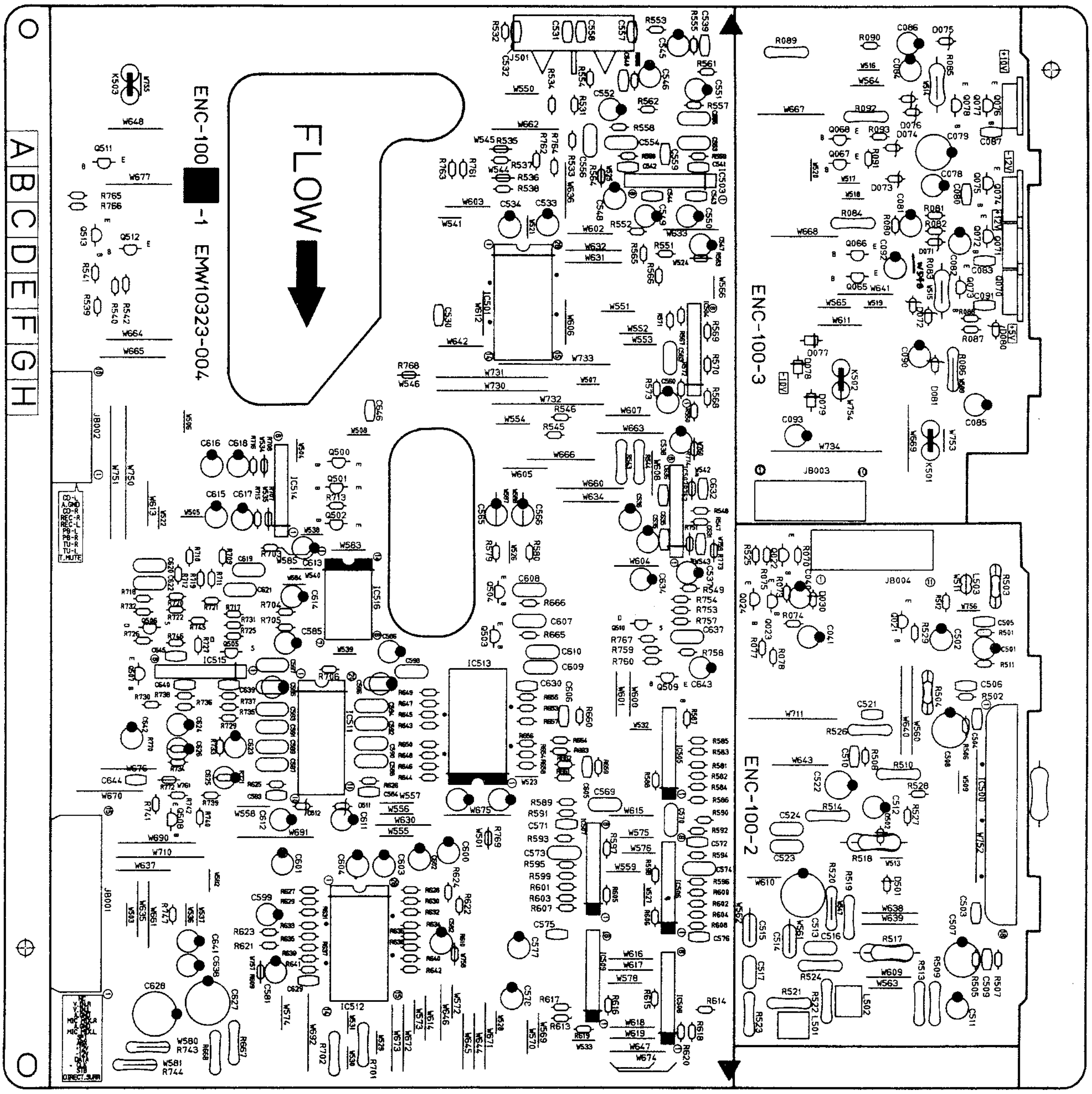
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EWT011-158	TERMINAL WIRE	
	J091	EMB90TV-404A	SPEAKER TERMINAL	A
	J091	EMB90TV-404A	SPEAKER TERMINAL	B
	J091	EMB90TV-404A	SPEAKER TERMINAL	C
	J091	EMB90TV-403A	SPEAKER TERMINAL	D
	J091	EMB90TV-403A	SPEAKER TERMINAL	E
	J781	QMS3L10-ED0H	MINI JACK(MIC TERMINAL)	
	J791	QMS3L10-ED0H	MINI JACK(MIC TERMINAL)	
	P671	EMV5109-006A	PLUG ASSY(6PIN)	
	P672	EMV5109-003A	PLUG ASSY(3PIN)	
	P674	EMV5142-906	PLUG ASSY(6PIN)	
	S201	ESP0001-023M	TACT SWITCH(WAKE-UP/SLEEP)	
	S202	ESP0001-023M	TACT SWITCH(TIMER 1)	
	S203	ESP0001-023M	TACT SWITCH(TIMER 2)	
	S204	ESP0001-023M	TACT SWITCH(DAILY)	
	S205	ESP0001-023M	TACT SWITCH(CLOCK ADJUST)	
	S206	ESP0001-023M	TACT SWITCH(CANCEL)	
	S207	ESP0001-023M	TACT SWITCH(MEMORY)	
	S208	ESP0001-023M	TACT SWITCH(TUNING UP)	
	S209	ESP0001-023M	TACT SWITCH(TUNING DOWN)	
	S210	ESP0001-023M	TACT SWITCH(PRESET UP)	
	S211	ESP0001-023M	TACT SWITCH(PRESET DOWN)	
	S212	ESP0001-023M	TACT SWITCH(FM)	
	S213	ESP0001-023M	TACT SWITCH(AM)	
	S214	ESP0001-023M	TACT SWITCH(FM MODE/MUTE)	
	S215	ESP0001-023M	TACT SWITCH(PRESET SCAN.)	
	S216	ESP0001-023M	TACT SWITCH(+10)	
	S901	ESP0001-023M	TACT SWITCH(POWER)	
	S902	ESP0001-023M	TACT SWITCH(VOCAL MASKING)	
	S903	ESP0001-023M	TACT SWITCH(AUX)	
	S904	ESP0001-023M	TACT SWITCH(PHONO)	
	S905	ESP0001-023M	TACT SWITCH(BASS CONTROL)	
	S906	ESP0001-023M	TACT SWITCH(CINEMA H.PHONE)	
	S907	ESP0001-023M	TACT SWITCH(HALL POPS)	
	S908	ESP0001-023M	TACT SWITCH(DOME CLASSIC)	
	S909	ESP0001-023M	TACT SWITCH(DANCE CLUB ROCK)	
	S910	ESP0001-023M	TACT SWITCH(BGM CAR)	
	S911	ESP0001-023M	TACT SWITCH(SEA)	
	S912	ESP0001-023M	TACT SWITCH(P.SURROUND/DEMO)	
	BC672	EWS293-0116	SOCKET WIRE(3PIN)	
	BC674	EWS326-A913	SOCKET WIRE(6PIN)	
	BC701	EWS325-A920	SOCKET WIRE(5PIN)	
	BK201	E308192-001	FL HOLDER	
	BK901	E308419-001	FL HOLDER	
	FL201	ELU0001-150	FL TUBE	
	FL901	ELU0001-149	FL TUBE	
	FS201	E306805-014	FELT SPACER	
	FS901	E306805-014	FELT SPACER	
	FW702	EWR34B-16LST	FLAT WIRE(4PIN)	
	JA902	EMV5123-L070	PLUG ASSY(20PIN)	
	JB005	EMV7125-004R	CONNECTOR(4PIN)	
	JB901	EMV7123-037R	CONNECTOR(37PIN)	
	JB902	EMV7124-010	CONNECTOR(10PIN)	
	JB903	EMV7124-009	CONNECTOR(9PIN)	
	TC201	ENZ1003-015	TRIMMER	
	XT201	ECX4194-304CF	RESONATOR	
	XT901	ECX0060-000EM	RESONATOR	

⚠ : SAFETY PARTS

■ENC-100☐ Selector, Amplifier & Regulator PC Board Ass'y

Note : ENC-100☐ varies according to the areas employed. See note (1) when placing an order.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IC513
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IC515
IC516
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-12V
+12V
+5V
-10V

Note (1)

PC Board Ass'y	Designated Areas
ENC-100 G	Australia, the U.K. Scandinavia Continental Europe
ENC-100 H	Germany, Italy

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q021	DTC144ES	SILICON	ROHM	
	Q022	2SC1740S(R,S)	SILICON	ROHM	
	Q023	2SC1740S(R,S)	SILICON	ROHM	
	Q024	2SA733A(P,Q)	SILICON		
	Q065	DTC144ES	SILICON	ROHM	

⚠ : SAFETY PARTS

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q066	DTA114YS	SILICON	ROHM	
	Q067	DTA144ES	SILICON	ROHM	
	Q068	DTC114YS	SILICON	ROHM	
	Q070	2SD1944(J,K)	SILICON	ROHM	
	Q071	2SD2061(E,F)	SILICON	ROHM	
	Q072	2SC1740S(R,S)	SILICON	ROHM	
	Q074	2SB1187(E,F)	SILICON	ROHM	
	Q075	2SA564A(Q,R)	SILICON	MATSUSHITA	
	Q076	2SD2061(E,F)	SILICON	ROHM	
	Q077	2SC1740S(R,S)	SILICON	ROHM	
	Q500	DTC114ES	SILICON	ROHM	
	Q501	DTA114ES	SILICON	ROHM	
	Q502	DTC114ES	SILICON	ROHM	
	Q503	2SC1740S(R,S)	SILICON	ROHM	
	Q504	2SC1740S(R,S)	SILICON	ROHM	
	Q505	2SK301(P,Q)	F.E.T	MATSUSHITA	
	Q506	2SK301(P,Q)	F.E.T	MATSUSHITA	
	Q507	DTA144ES	SILICON	ROHM	
	Q508	2SC1740S(R,S)	SILICON	ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC500	STK4141MK5	I.C. SANYO	
	IC501	TC9162N	I.C. TOSHIBA	
	IC502	VC4580L	I.C. DAINICHI	
	IC503	VC4580LD	I.C. DAINICHI	
	IC504	XRA15218N	I.C. EXAR JAPAN	
	IC505	XRA15218N	I.C. EXAR JAPAN	
	IC506	XRA15218N	I.C. EXAR JAPAN	
	IC507	XRA15218N	I.C. EXAR JAPAN	
	IC508	XRA15218N	I.C. EXAR JAPAN	
	IC509	XRA15218N	I.C. EXAR JAPAN	
	IC511	M5243P12	I.C. MITSUBISHI	
	IC512	TC9163N	I.C. TOSHIBA	
	IC513	TC9164N	I.C. TOSHIBA	
	IC514	XRA15218N	I.C. EXAR JAPAN	
	IC515	VC4580L	I.C. DAINICHI	
	IC516	LC4966	I.C. SANYO	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D030	1SS119	SILICON HITACHI	
	D071	RD13JSB3	ZENER NEC	
	D072	MTZ13JC	ZENER ROHM	
	D073	MTZ13JC	ZENER ROHM	
	D074	RD13JSB3	ZENER NEC	
	D075	MTZ11JC	ZENER ROHM	
	D076	MTZ12JC	ZENER ROHM	
	D077	1SR139-200	SILICON ROHM	
	D078	1SR139-200	SILICON ROHM	
	D079	1SR139-200	SILICON ROHM	
	D080	MTZ6.8JC	ZENER ROHM	
	D081	MTZ6.2JC	ZENER ROHM	
	D501	1SS119	SILICON HITACHI	
	D502	1SS119	SILICON HITACHI	
	D511	MTZ6.2JC	ZENER ROHM	
	D512	MTZ6.2JC	ZENER ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C040	QETB1CM-226	22MF 16V ELECTRO	
	C041	QETB1AM-476	47MF 10V ELECTRO	
	C078	QETB1EM-226	22MF 25V ELECTRO	
	C079	QETB1EM-227	220MF 25V ELECTRO	
	C080	QCVB1CM-103	0.01MF 16V CERAMIC	
	C081	QETB1EM-226	22MF 25V ELECTRO	
	C082	QETB1EM-226	22MF 25V ELECTRO	
	C083	QCVB1CM-103	0.01MF 16V CERAMIC	
	C084	QETB1EM-226	22MF 25V ELECTRO	
	C085	EEZ5009-106	10MF ELECTRO	
	C086	QETB1EM-226	22MF 25V ELECTRO	
	C087	QCVB1CM-103	0.01MF 16V CERAMIC	
	C090	QETB1EM-226	22MF 25V ELECTRO	
	C091	QCVB1CM-103	0.01MF 16V CERAMIC	
	C092	QETB1EM-226	22MF 25V ELECTRO	
	C093	QETB1EM-226	22MF 25V ELECTRO	
	C501	EEZ2505-226	22MF ELECTRO	
	C502	EEZ2505-226	22MF ELECTRO	
	C503	QCBB1HK-561	560PF 50V CERAMIC	
	C504	QCBB1HK-561	560PF 50V CERAMIC	
	C505	QCBB1HK-101	100PF 50V CERAMIC	
	C506	QCBB1HK-101	100PF 50V CERAMIC	
	C507	EET2501-107E	100MF ELECTRO	
	C508	EET2501-107E	100MF ELECTRO	
	C509	QCT30CH-100	10PF 50V CERAMIC	
	C510	QCT30CH-100	10PF 50V CERAMIC	
	C511	QETB1HM-226	22MF 50V ELECTRO	
	C512	QETB1HM-226	22MF 50V ELECTRO	
	C513	QETB1HM-107	100MF 50V ELECTRO	
	C514	QFV81HJ-104	0.1MF 50V T.FILM	
	C515	QFV81HJ-104	0.1MF 50V T.FILM	
	C516	QFV81HJ-104	0.1MF 50V T.FILM	
	C517	QFV81HJ-104	0.1MF 50V T.FILM	
	C521	QCBB1HK-681	680PF 50V CERAMIC	H
	C522	QETB1HM-106	10MF 50V ELECTRO	
	C523	QFLB1HJ-473	0.047MF 50V MYLAR	
	C524	QFLB1HJ-473	0.047MF 50V MYLAR	
	C531	QCBB1HK-331	330PF 50V CERAMIC	H
	C532	QCBB1HK-331	330PF 50V CERAMIC	H
	C533	EEZ2505-476	47MF ELECTRO	
	C534	EEZ2505-476	47MF ELECTRO	
	C535	QETB1HM-475	4.7MF 50V ELECTRO	
	C536	QETB1HM-475	4.7MF 50V ELECTRO	
	C537	QETB1HM-475	4.7MF 50V ELECTRO	
	C538	QETB1HM-475	4.7MF 50V ELECTRO	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C539	QCBB1HK-101	100PF 50V CERAMIC	
	C540	QCBB1HK-101	100PF 50V CERAMIC	
	C543	QCBB1HK-101	100PF 50V CERAMIC	
	C544	QCBB1HK-101	100PF 50V CERAMIC	
	C545	QETB1HM-475	4.7MF 50V ELECTRO	
	C546	QETB1HM-475	4.7MF 50V ELECTRO	
	C547	QETB1HM-475	4.7MF 50V ELECTRO	
	C548	QETB1HM-475	4.7MF 50V ELECTRO	
	C549	QETB1EM-476	47MF 25V ELECTRO	
	C550	QETB1EM-476	47MF 25V ELECTRO	
	C551	QETB1EM-476	47MF 25V ELECTRO	
	C552	QETB1EM-476	47MF 25V ELECTRO	
	C553	QFLB1HJ-182	1800PF 50V MYLAR	
	C554	QFLB1HJ-182	1800PF 50V MYLAR	
	C555	QFLB1HJ-682	6800PF 50V MYLAR	
	C556	QFLB1HJ-682	6800PF 50V MYLAR	
	C557	QCBB1HK-561	560PF 50V CERAMIC	H
	C558	QCBB1HK-561	560PF 50V CERAMIC	H
	C559	QCHB1EZ-223	0.022MF 25V CERAMIC	H
	C560	QETB1HM-475	4.7MF 50V ELECTRO	
	C563	QFLB1HJ-683	0.068MF 50V MYLAR	
	C565	QETB1EM-106	10MF 25V ELECTRO	
	C566	QETB1EM-106	10MF 25V ELECTRO	
	C569	QFV81HJ-104	0.1MF 50V T.FILM	
	C570	QFV81HJ-104	0.1MF 50V T.FILM	
	C571	QCXB1CM-682	6800PF 16V CERAMIC	
	C572	QCXB1CM-682	6800PF 16V CERAMIC	
	C573	QFLB1HJ-222	2200PF 50V MYLAR	
	C574	QFLB1HJ-222	2200PF 50V MYLAR	
	C575	QCGB1HK-102	1000PF 50V CERAMIC	
	C576	QCGB1HK-102	1000PF 50V CERAMIC	
	C577	QETB1EM-106	10MF 25V ELECTRO	
	C578	QETB1EM-106	10MF 25V ELECTRO	
	C581	QETB1EM-106	10MF 25V ELECTRO	
	C582	QETB1EM-106	10MF 25V ELECTRO	
	C583	QCGB1HK-821	820PF 50V CERAMIC	
	C584	QCGB1HK-821	820PF 50V CERAMIC	
	C585	QETB1EM-106	10MF 25V ELECTRO	
	C586	QETB1EM-106	10MF 25V ELECTRO	
	C587	QFLB1HJ-822	8200PF 50V MYLAR	
	C588	QFLB1HJ-822	8200PF 50V MYLAR	
	C589	QFLB1HJ-152	1500PF 50V MYLAR	
	C590	QFLB1HJ-152	1500PF 50V MYLAR	
	C591	QFLB1HJ-333	0.033MF 50V MYLAR	
	C592	QFLB1HJ-333	0.033MF 50V MYLAR	
	C593	QFLB1HJ-223	0.022MF 50V MYLAR	
	C594	QFLB1HJ-223	0.022MF 50V MYLAR	
	C595	QFV81HJ-394	0.39MF 50V T.FILM	
	C596	QFV81HJ-394	0.39MF 50V T.FILM	
	C597	QFV81HJ-124	0.12MF 50V T.FILM	
	C598	QFV81HJ-124	0.12MF 50V T.FILM	
	C599	QETB1EM-476	47MF 25V ELECTRO	
	C600	QETB1EM-476	47MF 25V ELECTRO	
	C601	QETB1EM-476	47MF 25V ELECTRO	
	C602	QETB1EM-476	47MF 25V ELECTRO	
	C605	QCS21HJ-680	68PF 50V CERAMIC	
	C606	QCS21HJ-680	68PF 50V CERAMIC	
	C607	QFLB1HJ-821	820PF 50V MYLAR	
	C608	QFLB1HJ-821	820PF 50V MYLAR	
	C609	QFLB1HJ-122	1200PF 50V MYLAR	
	C610	QFLB1HJ-122	1200PF 50V MYLAR	
	C611	EEZ2505-476	47MF 25V ELECTRO	
	C612	EEZ2505-476	47MF 25V ELECTRO	
	C613	QETB1EM-106	10MF 25V ELECTRO	
	C614	QETB1EM-106	10MF 25V ELECTRO	
	C615	EEZ5009-106	10MF 50V ELECTRO	
	C616	EEZ5009-106	10MF 50V ELECTRO	
	C617	QETB1HM-106	10MF 50V ELECTRO	
	C618	QETB1HM-106	10MF 50V ELECTRO	
	C619	QFV81HJ-393	0.039MF 50V T.FILM	
	C620	QFV81HJ-393	0.039MF 50V T.FILM	
	C621	QFV81HJ-104	0.1MF 50V T.FILM	
	C622	QFV81HJ-104	0.1MF 50V T.FILM	
	C623	QER51HM-225G	2.2MF 50V ELECTRO	
	C624	QER51HM-225G	2.2MF 50V ELECTRO	
	C638	QEK51HM-105G	1MF 50V ELECTRO	
	C639	QCSB1HJ-220	22PF 50V CERAMIC	
	C640	QCSB1HJ-220	22PF 50V CERAMIC	
	C641	QETB1EM-106	10MF 25V ELECTRO	
	C642	QETB1EM-106	10MF 25V ELECTRO	
	C644	QCHB1EZ-223	0.022MF 25V CERAMIC	H
	C645	QCHB1EZ-223	0.022MF 25V CERAMIC	H
	C646	QCHB1EZ-223	0.022MF 25V CERAMIC	H

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R070	QRD167J-333	33K 1/6W CARBON	
	R073	QRD167J-682	6.8K 1/6W CARBON	
	R074	QRD167J-104	100K 1/6W CARBON	
	R075	QRD167J-104	100K 1/6W CARBON	
	R077	QRD167J-823	82K 1/6W CARBON	
	R078	QRD167J-104	100K 1/6W CARBON	
	R080	QRD167J-103	10K 1/6W CARBON	
	R081	QRD167J-152	1.5K 1/6W CARBON	
	R082	QRD167J-471	470 1/6W CARBON	
⚠	R084	QRD14CJ-1R0S	1 1/4W UNF.CARBON	
	R087	QRD167J-103	10K 1/6W CARBON	
	R088	QRD167J-103	10K 1/6W CARBON	
⚠	R089	QRD14CJ-1R0S	1 1/4W UNF.CARBON	
	R090	QRD167J-332	3.3K 1/6W CARBON	
	R091	QRD167J-103	10K 1/6W CARBON	
⚠	R092	QRD14CJ-2R7S	2.7 1/4W UNF.CARBON	
	R093	QRD167J-222	2.2K 1/6W CARBON	
	R501	QRD167J-563	56K 1/6W CARBON	
	R502	QRD167J-563	56K 1/6W CARBON	
⚠	R503	QRD14CJ-561S	560 1/4W UNF.CARBON	
⚠	R504	QRD14CJ-561S	560 1/4W UNF.CARBON	
	R505	QRD167J-471	470 1/6W CARBON	
	R506	QRD167J-471	470 1/6W CARBON	
	R507	QRD167J-563	56K 1/6W CARBON	
	R508	QRD167J-563	56K 1/6W CARBON	
⚠	R509	QRD14CJ-272S	2.7K 1/4W UNF.CARBON	
⚠	R510	QRD14CJ-272S	2.7K 1/4W UNF.CARBON	
	R511	QRD167J-102	1K 1/6W CARBON	
	R512	QRD167J-102	1K 1/6W CARBON	
⚠	R513	QRD14CJ-272S	2.7K 1/4W UNF.CARBON	
⚠	R514	QRD14CJ-272S	2.7K 1/4W UNF.CARBON	
⚠	R517	QRX012J-R22AM	0.22 1W M.FILM	
⚠	R518	QRX012J-R22AM	0.22 1W M.FILM	
⚠	R519	QRZ0077-101	100 1/4W FUSIBLE	
⚠	R520	QRZ0077-100	10 1/4W FUSIBLE	
⚠	R521	QRD14CJ-100S	10 1/4W UNF.CARBON	
⚠	R522	QRD14CJ-100S	10 1/4W UNF.CARBON	
⚠	R523	QRD14CJ-100S	10 1/4W UNF.CARBON	
⚠	R524	QRD14CJ-100S	10 1/4W UNF.CARBON	
	R525	QRD167J-332	3.3K 1/6W CARBON	
⚠	R526	QRD14CJ-100S	10 1/4W UNF.CARBON	
	R527	QRD167J-272	2.7K 1/6W CARBON	
	R528	QRD167J-272	2.7K 1/6W CARBON	
	R529	QRD167J-103	10K 1/6W CARBON	
	R531	QRD167J-153	15K 1/6W CARBON	
	R532	QRD167J-153	15K 1/6W CARBON	
	R533	QRD167J-104	100K 1/6W CARBON	
	R534	QRD167J-104	100K 1/6W CARBON	
	R539	QRD167J-222	2.2K 1/6W CARBON	
	R540	QRD167J-222	2.2K 1/6W CARBON	
	R541	QRD167J-392	3.9K 1/6W CARBON	
	R542	QRD167J-392	3.9K 1/6W CARBON	
	R543	QRD167J-331	330 1/6W CARBON	
	R544	QRD167J-331	330 1/6W CARBON	
	R545	QRD167J-104	100K 1/6W CARBON	
	R546	QRD167J-104	100K 1/6W CARBON	
	R547	QRD167J-104	100K 1/6W CARBON	
	R548	QRD167J-104	100K 1/6W CARBON	
	R549	QRD167J-152	1.5K 1/6W CARBON	
	R550	QRD167J-152	1.5K 1/6W CARBON	
	R551	QRD167J-104	100K 1/6W CARBON	
	R552	QRD167J-104	100K 1/6W CARBON	
	R553	QRD167J-222	2.2K 1/6W CARBON	
	R554	QRD167J-222	2.2K 1/6W CARBON	
	R555	QRD167J-473	47K 1/6W CARBON	
	R556	QRD167J-473	47K 1/6W CARBON	
	R557	QRD167J-474	470K 1/6W CARBON	
	R558	QRD167J-474	470K 1/6W CARBON	
	R559	QRD167J-393	39K 1/6W CARBON	
	R560	QRD167J-393	39K 1/6W CARBON	
	R561	QRD167J-751	750 1/6W CARBON	
	R562	QRD167J-751	750 1/6W CARBON	
	R565	QRD167J-391	390 1/6W CARBON	
	R566	QRD167J-391	390 1/6W CARBON	
	R567	QRD167J-473	47K 1/6W CARBON	
	R568	QRD167J-473	47K 1/6W CARBON	
	R569	QRD167J-473	47K 1/6W CARBON	
	R570	QRD167J-473	47K 1/6W CARBON	
	R571	QRD167J-473	47K 1/6W CARBON	
	R572	QRD167J-473	47K 1/6W CARBON	
	R573	QRD167J-104	100K 1/6W CARBON	
	R579	QRD167J-104	100K 1/6W CARBON	
	R580	QRD167J-104	100K 1/6W CARBON	
	R581	QRD167J-392	3.9K 1/6W CARBON	
	R582	QRD167J-392	3.9K 1/6W CARBON	
	R583	QRD167J-103	10K 1/6W CARBON	
	R584	QRD167J-103	10K 1/6W CARBON	
	R585	QRD167J-103	10K 1/6W CARBON	
	R586	QRD167J-103	10K 1/6W CARBON	
	R587	QRD167J-103	10K 1/6W CARBON	
	R588	QRD167J-103	10K 1/6W CARBON	
	R589	QRD167J-103	10K 1/6W CARBON	
	R590	QRD167J-103	10K 1/6W CARBON	
	R591	QRD167J-103	10K 1/6W CARBON	
	R592	QRD167J-103	10K 1/6W CARBON	

⚠ SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R593	QRD167J-103	10K 1/6W CARBON	
	R594	QRD167J-103	10K 1/6W CARBON	
	R595	QRD167J-103	10K 1/6W CARBON	
	R596	QRD167J-103	10K 1/6W CARBON	
	R597	QRD167J-103	10K 1/6W CARBON	
	R598	QRD167J-103	10K 1/6W CARBON	
	R599	QRD167J-224	220K 1/6W CARBON	
	R600	QRD167J-224	220K 1/6W CARBON	
	R601	QRD167J-103	10K 1/6W CARBON	
	R602	QRD167J-103	10K 1/6W CARBON	
	R603	QRD167J-103	10K 1/6W CARBON	
	R604	QRD167J-103	10K 1/6W CARBON	
	R605	QRD167J-103	10K 1/6W CARBON	
	R606	QRD167J-103	10K 1/6W CARBON	
	R607	QRD167J-103	10K 1/6W CARBON	
	R608	QRD167J-103	10K 1/6W CARBON	
	R613	QRD167J-103	10K 1/6W CARBON	
	R614	QRD167J-103	10K 1/6W CARBON	
	R615	QRD167J-103	10K 1/6W CARBON	
	R616	QRD167J-103	10K 1/6W CARBON	
	R617	QRD167J-103	10K 1/6W CARBON	
	R618	QRD167J-103	10K 1/6W CARBON	
	R619	QRD167J-153	15K 1/6W CARBON	
	R620	QRD167J-153	15K 1/6W CARBON	
	R621	QRD167J-104	100K 1/6W CARBON	
	R622	QRD167J-104	100K 1/6W CARBON	
	R623	QRD167J-103	10K 1/6W CARBON	
	R624	QRD167J-103	10K 1/6W CARBON	
	R625	QRD167J-103	10K 1/6W CARBON	
	R626	QRD167J-103	10K 1/6W CARBON	
	R627	QRD167J-243	24K 1/6W CARBON	
	R628	QRD167J-243	24K 1/6W CARBON	
	R629	QRD167J-123	12K 1/6W CARBON	
	R630	QRD167J-123	12K 1/6W CARBON	
	R631	QRD167J-472	4.7K 1/6W CARBON	
	R632	QRD167J-472	4.7K 1/6W CARBON	
	R633	QRD167J-183	18K 1/6W CARBON	
	R634	QRD167J-183	18K 1/6W CARBON	
	R635	QRD167J-822	8.2K 1/6W CARBON	
	R636	QRD167J-822	8.2K 1/6W CARBON	
	R637	QRD167J-822	8.2K 1/6W CARBON	
	R638	QRD167J-822	8.2K 1/6W CARBON	
	R639	QRD167J-113	11K 1/6W CARBON	
	R640	QRD167J-113	11K 1/6W CARBON	
	R641	QRD167J-273	27K 1/6W CARBON	
	R642	QRD167J-273	27K 1/6W CARBON	
	R643	QRD167J-183	18K 1/6W CARBON	
	R644	QRD167J-183	18K 1/6W CARBON	
	R645	QRD167J-912	9.1K 1/6W CARBON	
	R646	QRD167J-912	9.1K 1/6W CARBON	
	R647	QRD167J-183	18K 1/6W CARBON	
	R648	QRD167J-183	18K 1/6W CARBON	
	R649	QRD167J-822	8.2K 1/6W CARBON	
	R650	QRD167J-822	8.2K 1/6W CARBON	
	R653	QRD167J-153	15K 1/6W CARBON	
	R654	QRD167J-153	15K 1/6W CARBON	
	R655	QRD167J-333	33K 1/6W CARBON	
	R656	QRD167J-333	33K 1/6W CARBON	
	R657	QRD167J-622	6.2K 1/6W CARBON	
	R658	QRD167J-622	6.2K 1/6W CARBON	
	R659	QRD167J-122	1.2K 1/6W CARBON	
	R660	QRD167J-122	1.2K 1/6W CARBON	
	R661	QRD167J-823	82K 1/6W CARBON	
	R662	QRD167J-823	82K 1/6W CARBON	
	R663	QRD167J-473	47K 1/6W CARBON	
	R664	QRD167J-473	47K 1/6W CARBON	
	R665	QRD167J-183	18K 1/6W CARBON	
	R666	QRD167J-183	18K 1/6W CARBON	
	R667	QRD167J-331	330 1/6W CARBON	
	R668	QRD167J-331	330 1/6W CARBON	
	R703	QRD167J-104	100K 1/6W CARBON	
	R704	QRD167J-104	100K 1/6W CARBON	
	R705	QRD167J-104	100K 1/6W CARBON	
	R706	QRD167J-104	100K 1/6W CARBON	
	R707	QRD167J-182	1.8K 1/6W CARBON	
	R708	QRD167J-182	1.8K 1/6W CARBON	
	R709	QRD167J-821	820 1/6W CARBON	
	R710	QRD167J-821	820 1/6W CARBON	
	R711	QRD167J-910	91 1/6W CARBON	
	R712	QRD167J-910	91 1/6W CARBON	
	R713	QRD167J-103	10K 1/6W CARBON	
	R715	QRD167J-102	1K 1/6W CARBON	
	R716	QRD167J-102	1K 1/6W CARBON	
	R717	QRD167J-103	10K 1/6W CARBON	
	R718	QRD167J-103	10K 1/6W CARBON	
	R719	QRD167J-473	47K 1/6W CARBON	
	R720	QRD167J-473	47K 1/6W CARBON	
	R721	QRD167J-132	1.3K 1/6W CARBON	
	R722	QRD167J-132	1.3K 1/6W CARBON	
	R725	QRD167J-512	5.1K 1/6W CARBON	
	R726	QRD167J-512	5.1K 1/6W CARBON	
	R727	QRD167J-105	1M 1/6W CARBON	
	R729	QRD167J-122	1.2K 1/6W CARBON	
	R730	QRD167J-122	1.2K 1/6W CARBON	
	R731	QRD167J-473	47K 1/6W CARBON	

⚠ SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R732	QRD167J-473	47K 1/6W CARBON	
	R733	QRD167J-432	4.3K 1/6W CARBON	
	R734	QRD167J-432	4.3K 1/6W CARBON	
	R735	QRD167J-473	47K 1/6W CARBON	
	R736	QRD167J-473	47K 1/6W CARBON	
	R737	QRD167J-473	47K 1/6W CARBON	
	R738	QRD167J-473	47K 1/6W CARBON	
	R739	QRD167J-224	220K 1/6W CARBON	
	R740	QRD167J-224	220K 1/6W CARBON	
	R741	QRD167J-105	1M 1/6W CARBON	
	R742	QRD167J-331	330 1/6W CARBON	
	R745	QRD167J-105	1M 1/6W CARBON	
	R746	QRD167J-105	1M 1/6W CARBON	
	R747	QRD167J-472	4.7K 1/6W CARBON	
	R761	QRD161J-221	220 1/6W CARBON	
	R762	QRD161J-221	220 1/6W CARBON	
	R763	QRD167J-562	5.6K 1/6W CARBON	
	R764	QRD167J-562	5.6K 1/6W CARBON	
	R768	QRD167J-102	1K 1/6W CARBON	
	R769	QRD167J-102	1K 1/6W CARBON	
	R770	QRD167J-332	3.3K 1/6W CARBON	
	R771	QRD167J-332	3.3K 1/6W CARBON	
	R772	QRD167J-202	2K 1/6W CARBON	
	R773	QRD167J-102	1K 1/6W CARBON	
	R774	QRD167J-102	1K 1/6W CARBON	

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	J501	EMN00TV-412B	4P PIN JACK (PHONO, AUX INPUT)	
	K501	ENZ8101-007	INDUCTOR	H
	K502	ENZ8101-007	INDUCTOR	H
	L501	EQL0001-R45	INDUCTOR	
	L502	EQL0001-R45	INDUCTOR	
	L503	EQL4004-1R0	INDUCTOR	H
	JB001	EMV7140-L15R	CONNECTOR(15PIN) TO MAIN PCB	
	JB002	EMV7125-010R	CONNECTOR(10PIN) TO MAIN PCB	
	JB003	EMV7125-010R	CONNECTOR(10PIN) REGULATOR PCB	
	JB004	EMV7125-011R	CONNECTOR(11PIN) AMP. PCB	

⚠ : SAFETY PARTS

Accessories List

⚠	Part Number	Part Name	Q'ty	Description	Areas
	E30580-1975A	INSTRUCTION BOOK	1		A
	E30580-1975ABS	INSTRUCTION BOOK	1		BS
	E30580-1976A	INSTRUCTION BOOK	1		EF
	E30580-1976A	INSTRUCTION BOOK	1		G
	E30580-1976A	INSTRUCTION BOOK	1		GI
	E30580-1977A	INSTRUCTION BOOK	1		EN
	BT20060	WARRANTY CARD	1		BS
	BT-20134	WARRANTY CARD	1		G
	BT-20122	WARRANTY CARD	1		A
	BT-20122-1	STICKER	1		A
	BT-20066A	EEC AGENCY	1		BS
	E43486-340A	SAFETY SHEET	1		BS
	EWP502-005K	BILT-IN ANTENNA	1		A
	EWP502-005K	BILT-IN ANTENNA	1		BS
	EWP502-005K	BILT-IN ANTENNA	1		EF
	EWP502-005K	BILT-IN ANTENNA	1		EN
	EWP502-005K	BILT-IN ANTENNA	1		GI
	E67007-001	ANTENNA WIRE	1		G
	EMZ2001-014	ADAPTOR	1		A
	EMZ2001-014	ADAPTOR	1		BS
	EMZ2001-014	ADAPTOR	1		EF
	EMZ2001-014	ADAPTOR	1		EN
	EMZ2001-014	ADAPTOR	1		GI
	EQB4001-015	LOOP ANTENNA	1		
	EWP902-031	PLUG CORD ASSY	2		
	RM-SEMXS6U	REMOTE CONTROLLER	1		
	UM-4NJ-2PSA	BATTERY	1		
	QPGA025-03505	ENVELOPE	1		A
	QPGA025-03505	ENVELOPE	1		EF
	QPGA025-03505	ENVELOPE	1		EN
	QPGA025-03505	ENVELOPE	1		G
	QPGA025-03505	ENVELOPE	1		GI
	QPGA025-03505B	ENVELOPE	1		BS

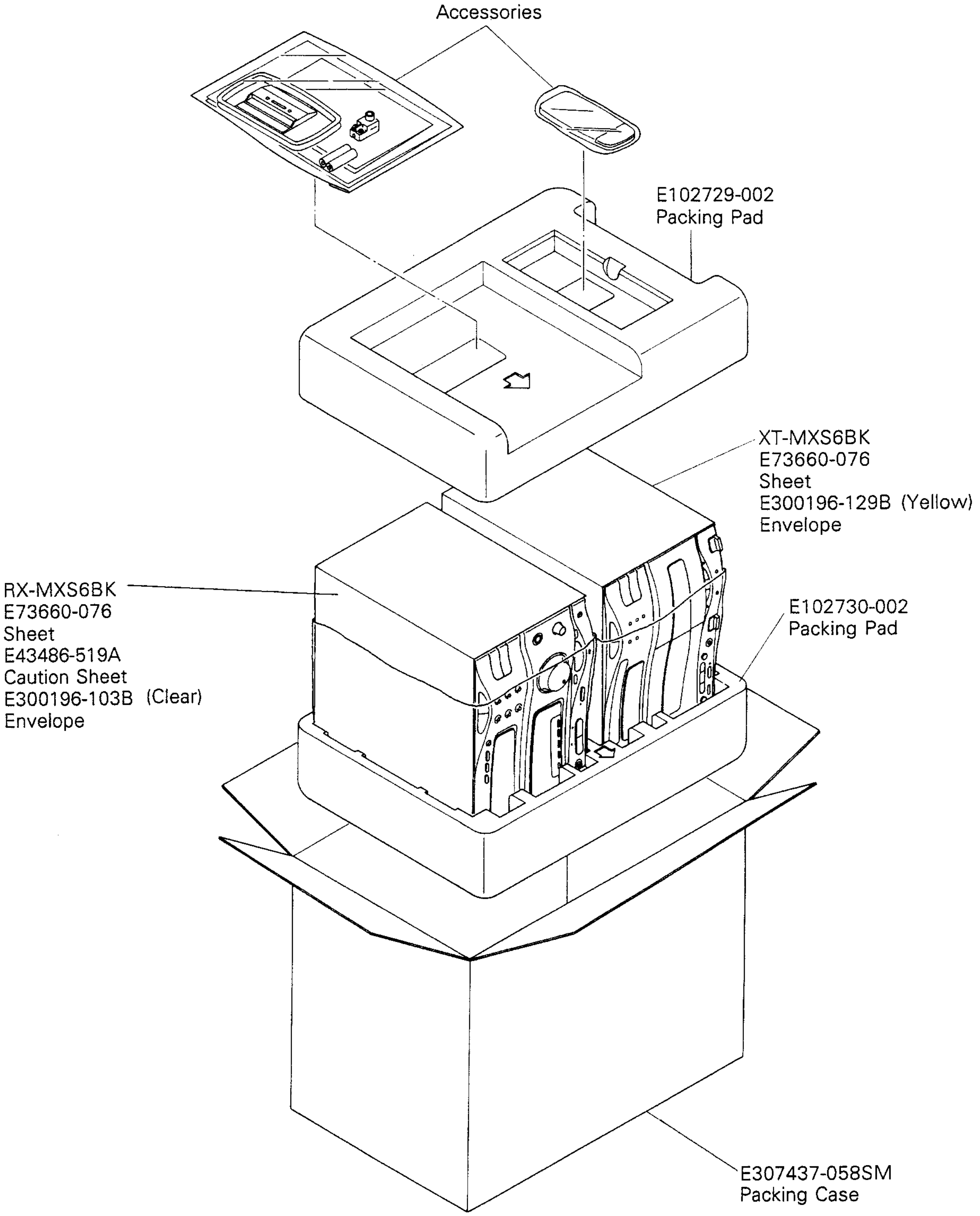
⚠ SAFETY PARTS

The Marks for Designated Areas

A	Australia	BS	the U.K.	EN	Scandinavia
EF	Continental Europe	G	Germany	GI	Itary

No mark indicates all areas.

Packing Materials and Part Numbers


Accessories
E102729-002
Packing Pad
XT-MXS6BK
E73660-076
Sheet
E300196-129B (Yellow)
Envelope
RX-MXS6BK
E73660-076
Sheet
E43486-519A
Caution Sheet
E300196-103B (Clear)
Envelope
E102730-002
Packing Pad
E307437-058SM
Packing Case

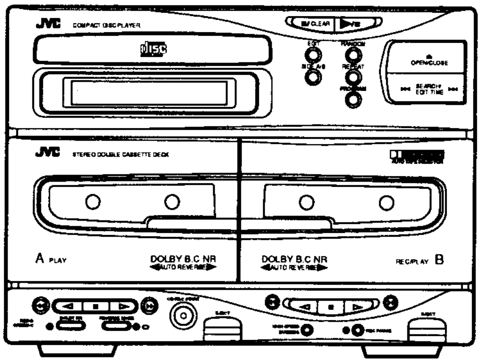
— MEMO —

JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

CA-MXS6BK
(Unit No. XT-MXS6BK)



Note

1. *This manual is for one part of the titled model consisting of the plural units as detailed.*

Unit No Consisted	*Part of Model*	*Manual No*
RX-MXS6BK	*TUNER-AMPLIFIER*	*20415*
XT-MXS6BK	*CD-DECK*	*20416*

2. *RX-MXS6BK is needed for the power supply when servicing the unit not provided with the power (mains) cord.*
3. *For instruction manual, packing materials and accessories, please refer to the manual of RX-MXS6BK.*

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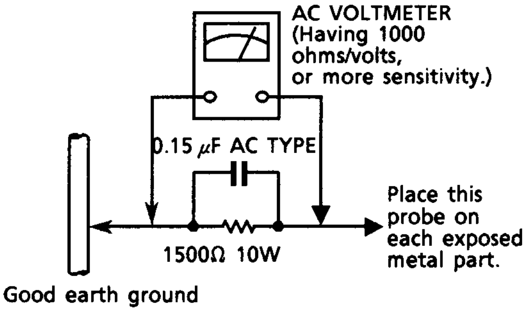
No.20416
May. 1993

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, contorl shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.).
     This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Important for Laser Products

1. CLASS 1 LASER PRODUCT
2. DANGER : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4. CAUTION : The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. CAUTION : If safety switches malfunction, the laser is able to function.
6. CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
7. CAUTION : The compact disc player provides a laser diode of wavelength 780-790nm and optical output power typical 3mW at the laser diode.

VARNING : Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

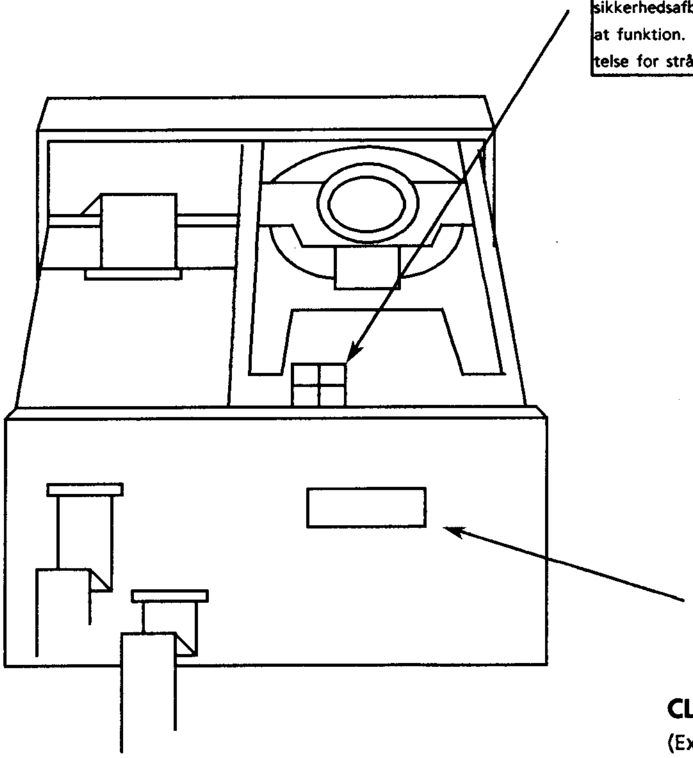
ADVARSEL : Usynlig laserstråling ved åpning, når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL

(Except for the U. S. A.)

DANGER: Invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)	VARNING: Osynling laserstråling når denna del å öppnad och spärren år urkoppled. Betrakta ej stålen. (s)
ADVARSEL: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude at funktion. Undgåudsættelse for stråling. (d)	VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)



CLASS 1
LASER PRODUCT

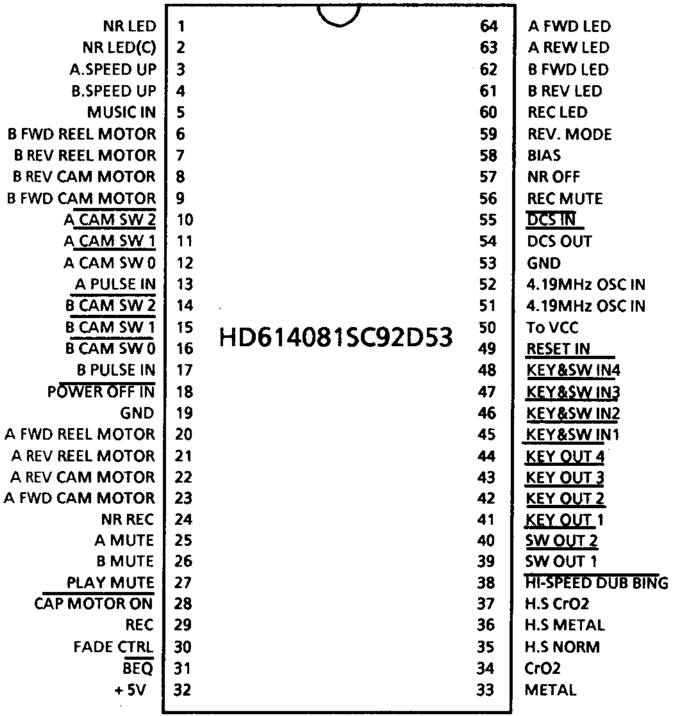
CLASSIFICATION LABEL

(Except for the U. S. A. and Canada)

Description of Major LSIs

■ HD614081SD53 (IC491) : Deck System Controller

1. Terminal Layout


HD614081SC92D53
NR LED 1
NR LED(C) 2
A.SPEED UP 3
B.SPEED UP 4
MUSIC IN 5
B FWD REEL MOTOR 6
B REV REEL MOTOR 7
B REV CAM MOTOR 8
B FWD CAM MOTOR 9
A CAM SW 2 10
A CAM SW 1 11
A CAM SW 0 12
A PULSE IN 13
B CAM SW 2 14
B CAM SW 1 15
B CAM SW 0 16
B PULSE IN 17
POWER OFF IN 18
GND 19
A FWD REEL MOTOR 20
A REV REEL MOTOR 21
A REV CAM MOTOR 22
A FWD CAM MOTOR 23
NR REC 24
A MUTE 25
B MUTE 26
PLAY MUTE 27
CAP MOTOR ON 28
REC 29
FADE CTRL 30
BEQ 31
+5V 32
64 A FWD LED
63 A REW LED
62 B FWD LED
61 B REV LED
60 REC LED
59 REV. MODE
58 BIAS
57 NR OFF
56 REC MUTE
55 DCS IN
54 DCS OUT
53 GND
52 4.19MHz OSC IN
51 4.19MHz OSC IN
50 To VCC
49 RESET IN
48 KEY&SW IN4
47 KEY&SW IN3
46 KEY&SW IN2
45 KEY&SW IN1
44 KEY OUT 4
43 KEY OUT 3
42 KEY OUT 2
41 KEY OUT 1
40 SW OUT 2
39 SW OUT 1
38 HI-SPEED DUB BING
37 H.S CrO2
36 H.S METAL
35 H.S NORM
34 CrO2
33 METAL

2. Table of key matrix

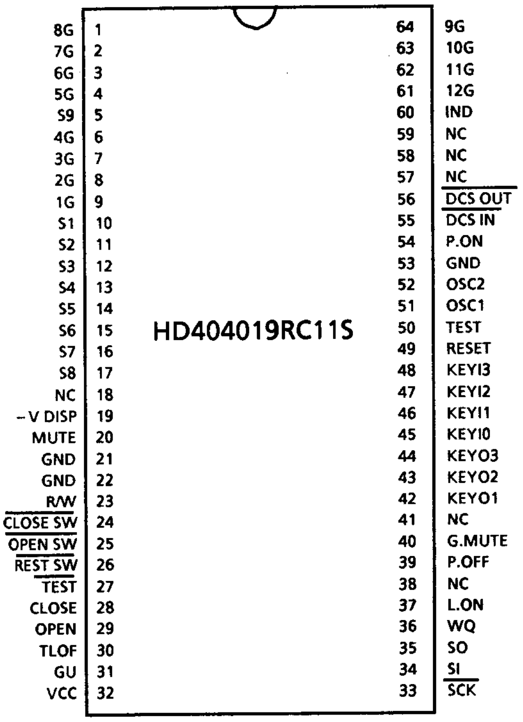
	KEY IN 1	KEY IN 2	KEY IN 3	KEY IN 4
KEY OUT 1	A ◀	A ◀◀	A ▶▶	A ▶
KEY OUT 2	B ◀	B ◀◀	B ▶▶	B ▶
KEY OUT 3	A ■	B ■	B REC PAUSE	
KEY OUT 4	A ▶▶ B	DOLBY	REV. MODE	CD. REC

3. Pin Functions

Pin NO	symbol	I/O	Function	Pin NO	symbol	I/O	Function
1	NR LED	O	DOLBY B indicator signal output	33	METAL	O	METAL Recording Equalizer control
2	NR LED (C)	O	DOLBY C indicator signal output	34	CrO2	O	CrO2 Recording Equalizer control
3	A SPEED UP	O	A deck Reel motor speed control output	35	H.S NORM	O	Hign speed Normal Recording Equalizer control
4	B SPEED UP	O	B deck Reel motor speed control output	36	H.S METAL	O	Hign speed METAL Recording Equalizer control
5	MUSIC IN	I	Music scan signal input	37	H.S CrO2	O	Hign speed CrO2 Recording Equalizer control
6	B FWD REEL MOTOR	O	FWD direction control for B reel motor	38	HI SPEED DUB BING	O	Recording Equalizer control
7	B REV REEL MOTOR	O	REV direction control for B reel motor	39	SW OUT1	O	Leaf switch output
8	B REV CAM MOTOR	O	REV direction control for B cam motor	40	SW OUT2	O	Leaf switch output
9	B FWD CAM MOTOR	O	FWD direction control for B cam motor	41	KEY OUT1	O	Key matrix output
10	A CAM SW2	I	A CAM SW input	42	KEY OUT2	O	Key matrix output
11	A CAM SW1	I	A CAM SW input	43	KEY OUT3	O	Key matrix output
12	A CAM SW0	I	A CAM SW input	44	KEY OUT4	O	Key matrix output
13	A PULSE IN	I	A deck reel pulse input	45	KEY&SW IN1	I	Key matrix and Leaf switch input
14	B CAM SW2	I	B CAM SW input	46	KEY&SW IN2	I	Key matrix and Leaf switch input
15	B CAM SW1	I	B CAM SW input	47	KEY&SW IN3	I	Key matrix and Leaf switch input
16	B CAM SW0	I	B CAM SW input	48	KEY&SW IN4	I	Key matrix and Leaf switch input
17	B PULSE IN	I	B deck reel pulse input	49	RESET IN	I	Reset signal input
18	POWER OFF IN	I	Power ON / OFF signal input	50	TO VCC	-	Connect to VCC
19	GND	-	Ground	51	OSC IN	I	Clock oscilator input
20	A FWD REEL MOTOR	O	FWD direction control for A reel motor	52	OSC IN	I	Clock oscilator input
21	A REV REEL MOTOR	O	REV direction control for A reel motor	53	GND	-	Ground
22	A REV CAM MOTOR	O	REV direction control for A cam motor	54	DCS OUT	O	DCS signal output
23	A FWD CAM MOTOR	O	FWD direction control for A cam motor	55	DCS IN	I	DCS signal input
24	NR REC	O	NR Rec control signal output to IC351	56	REC MUTE	O	Recording mute control signal output
25	A MUTE	O	A Deck play back mute signal output	57	NR OFF	O	NR ON/OFF control signal output to IC351
26	B MUTE	O	B Deck play back mute signal output	58	BIAS	O	BIAS control signal output
27	PLAY MUTE	O	Play back mute signal output	59	REV MODE	O	REV Mode indicator signal output
28	CAPSTAN ON	O	Capstan motor ON/OFF control	60	REC LED	O	Recording indicator signal output
29	REC	O	PB / REC control signal output to IC331	61	B REV LED	O	B REV indicator signal output
30	FADE CTRL	O	Fade control signal output	62	B FWD LED	O	B FWD indicator signal output
31	BEQ	O	Equalizer switching signal	63	A REW LED	O	A REW indicator signal output
32	+5V	-	Power supply	64	A FWD LED	O	A FWD indicator signal output

■ HD404019RC11S (IC951) : CD SYSTEM CONTROLLER

1. Terminal Layout


HD404019RC11S
8G 1 — 64 9G
7G 2 — 63 10G
6G 3 — 62 11G
5G 4 — 61 12G
S9 5 — 60 IND
4G 6 — 59 NC
3G 7 — 58 NC
2G 8 — 57 NC
1G 9 — 56 DCS OUT
S1 10 — 55 DCS IN
S2 11 — 54 P.ON
S3 12 — 53 GND
S4 13 — 52 OSC2
S5 14 — 51 OSC1
S6 15 — 50 TEST
S7 16 — 49 RESET
S8 17 — 48 KEYI3
NC 18 — 47 KEYI2
-V DISP 19 — 46 KEYI1
MUTE 20 — 45 KEYI0
GND 21 — 44 KEYO3
GND 22 — 43 KEYO2
R/W 23 — 42 KEYO1
CLOSE SW 24 — 41 NC
OPEN SW 25 — 40 G.MUTE
REST SW 26 — 39 P.OFF
TEST 27 — 38 NC
CLOSE 28 — 37 L.ON
OPEN 29 — 36 WQ
TLOF 30 — 35 SO
GU 31 — 34 SI
VCC 32 — 33 SCK

2. Key matrix

	KEY IN 0	KEY IN 1	KEY IN2	KEY IN3
KEY OUT 1	–	PROGRAM	–	▶/II
KEY OUT 2	⏮	REPEAT	RANDOM	⏏
KEY OUT 3	■/CLEAR	SIDE A/B	EDIT	⏭

3. Pin Description

Pin No.	Symbol	I/O	Functions and Operations	Pin NO.	Symbol	I/O	Functions and Operations
1~4	8G~5G	O	FL grid control output	34	(D IN) SI	I	Serial data input from IC841
5	S9	O	FL segment control output	35	(D OUT) SO	O	Serial data output for IC841
6~9	4G~1G	O	FL grid control output	36	WQ	I	Write request signal input
10~17	S1~S8	O	FL segment control output	37	L.ON	O	Laser on signal output
18	NC	--	Non connection	38,40 41	NC	--	Not used
19	-VDISP	I	FL Power supply	39	P.OFF	O	LSI power off signal output
20~22	NC	--	Not used	42~44	KEY OUT0 ~ KEY OUT3	O	Key matrix output
23	R/W	O	Read / Write signal output	45~48	KEY IN0 ~ KEY IN3	I	Key matrix input
24	CLOSE SW	I	Close switch : active low	49	RESET	I	Reset signal input
25	OPEN SW	I	Open switch : active low	50	TEST	I	Test mode input : connected to +5V
26	RESET SW	I	Reset switch : active low at the inmost position of pickup	51	OSC 1	I	Clock Oscillation input
27	TEST	I	Test mode input	52	OSC 2	O	Clock Oscillation output
28	CLOSE	O	Close signal output	53	GND	--	Ground
29	OPEN	O	Open signal output	54	P.ON	I	Power on signal input
30	TLOF	O	Tracking servo off signal output	55	DCS IN	I	Compu-link signal input
31	GU	O	Tracking gain up signal output	56	DCS OUT	O	Compu-link signal output
32	VCC	--	+ 5V	57~59	NC	--	Non connection
33	SCK	O	Clock output for IC841	60	IND	O	Auto power off indicator signal
				61~64	11G~9G	O	FL grid control output

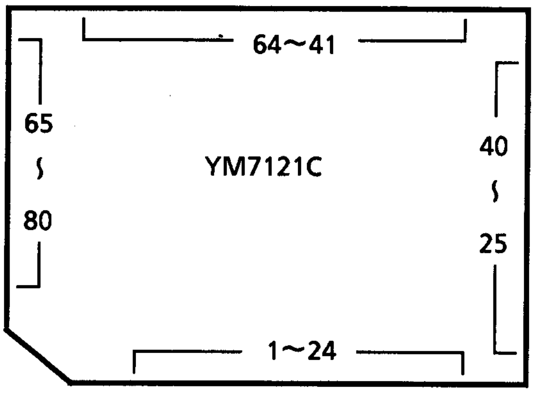
■YM7121C (IC841)

1. Outline

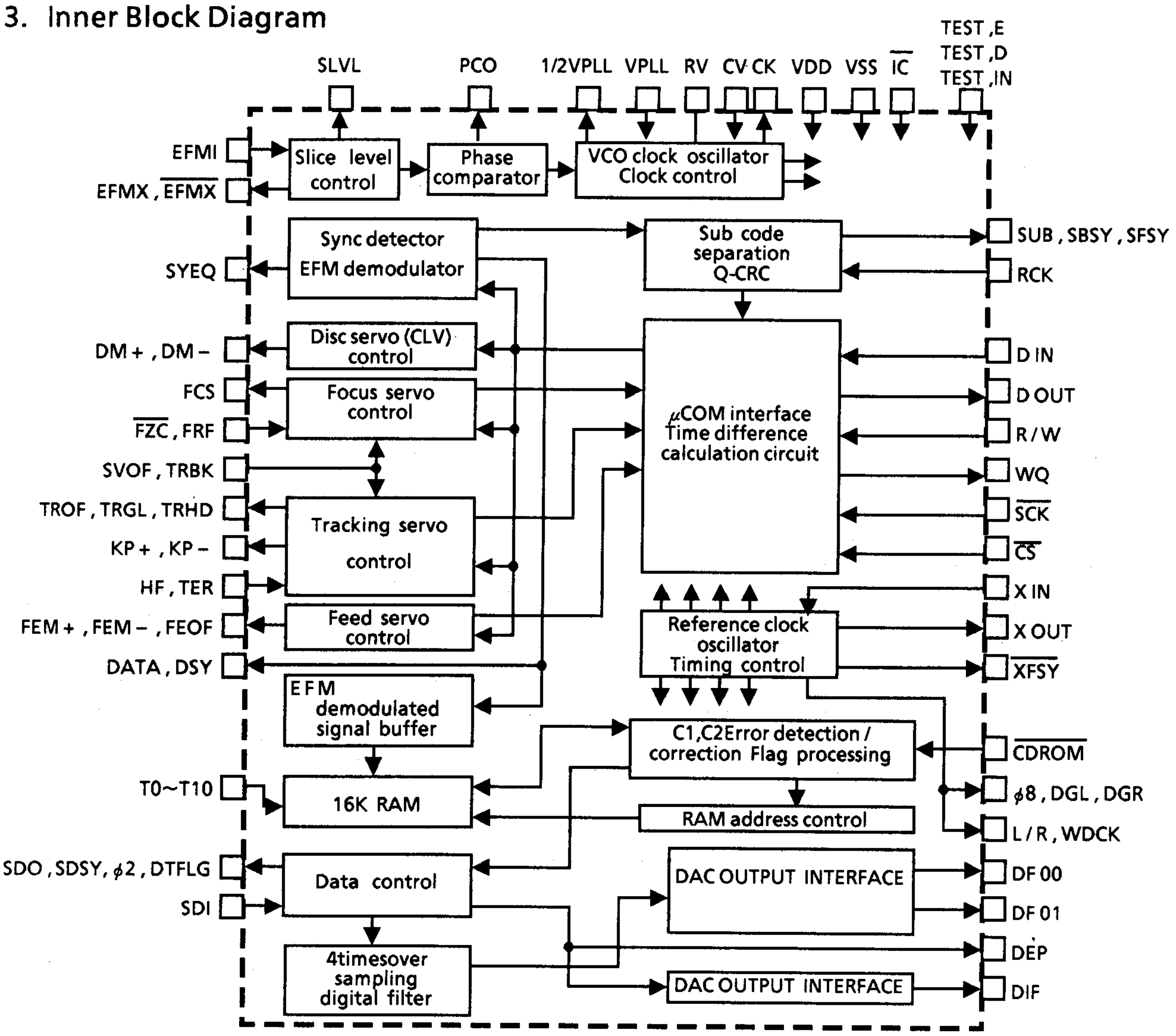
YM7121 is a C-MOS LSI for signal processing and servo control (SVC) in a CD player. It is used for the demodulation of the EFM signal from the laser pick up , detection / correction of the error signal , signal processing in digital filtering , etc. and for various servo controls (focusing , disc , tracking and feed servos).

And it contains digital interface which output the audio digital signals in S-RAM and CD-player. This digital interface matches EIAJ standards.

2. Top View


64~41
65
∫
80
YM7121C
40
∫
25
1~24

3. Inner Block Diagram


TEST,E
TEST,D
TEST,IN
SLVL
PCO
1/2VPLL
VPLL
RV
CV
CK
VDD
VSS
$\overline{IC}$
EFMI
EFMX, $\overline{EFMX}$
Slice level control
Phase comparator
VCO clock oscillator
Clock control
SYEQ
Sync detector
EFM demodulator
Sub code separation Q-CRC
SUB, SBSY, SFSY
RCK
DM+, DM−
Disc servo (CLV) control
FCS
Focus servo control
$\overline{FZC}$, FRF
SVOF, TRBK
TROF, TRGL, TRHD
Tracking servo control
KP+, KP−
HF, TER
FEM+, FEM−, FEOF
Feed servo control
DATA, DSY
μCOM interface
Time difference calculation circuit
D IN
D OUT
R/W
WQ
$\overline{SCK}$
$\overline{CS}$
X IN
X OUT
$\overline{XFSY}$
Reference clock oscillator
Timing control
EFM demodulated signal buffer
C1,C2 Error detection / correction Flag processing
$\overline{CDROM}$
T0~T10
16K RAM
RAM address control
φ8, DGL, DGR
L/R, WDCK
SDO, SDSY, φ2, DTFLG
Data control
DAC OUTPUT INTERFACE
DF 00
DF 01
SDI
4timesover sampling digital filter
DEP
DAC OUTPUT INTERFACE
DIF

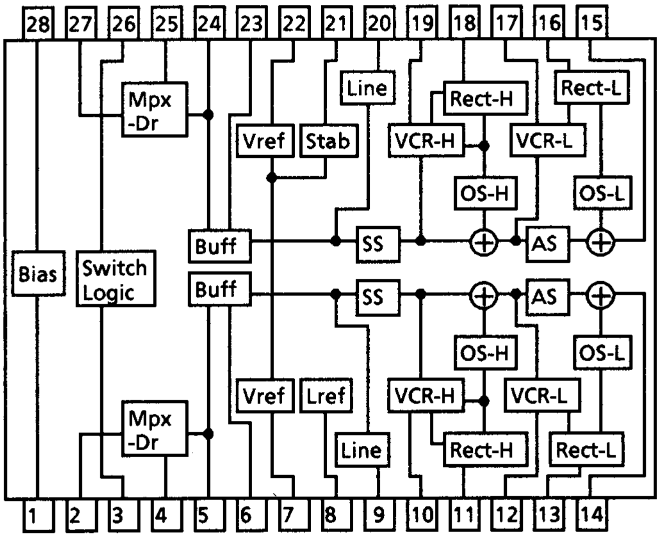
4. Terminal Function

Pin No.	Symbol	I/O	Function and Operation
1	CV	I	Adequate time constant is added to this terminal and input the PCO output. This makes the structure of clock reproduce circuit by inner VCO circuit.
2	RV	–	RV terminal is standard voltage terminal of inner VCO. And capacity for stabilizing is added to this terminal.
3 32 72	VDD	–	These are +5V power supply terminals.
4 5 70	TEST. IN TEST. E TEST. D	I I I	These terminals are for test.
6	SYEQ	O	This is the check output terminal, it becomes high when flame synchronizing signal detected from EFM pattern coincides frame synchronizing signal from internal counter.
7	DSY	O	DSY is synchronizing signal which becomes high when first signal of data output comes in. This terminal is the check terminal.
8	DATA	O	This terminal is for checks. The DATA is a serial signal of CK bit rate and it contains 8 bit EFM demodulation signal and 5 bit data control signal in 17 bit.
9	CK	O	CK has 4.3218 MHz clock.
10~19	T0~T9	I	This terminal is internal RAM test terminal, and connected GND.
22	DEP	O	De-emphasis is necessary when this terminal is high.
23	DIF	O	DIF is digital audio interface format output matched EIAJ standards.
24	SDO	O	SDO is a serial signal output of $\phi 2$ bit rate. (The MSB puts in at first.)
25	SDI	I	SDI is the input terminal of 4 times over sampling digital filter. It is usually connected with SDO.
26	SDSY	O	This terminal changes the Lch/Rch by LSB of the SDO.
27 30 33 34 35 36 37 38 39 40 41 42 43 44 45	DTFLG XOUT XFSY SUB SBSY RCK SFSY CDROM Φ8 WDCK L/R DGL DGR DF01 DF00	O O O O O I O O O O O O O O O	Not used.
28	$\phi 2$	O	$\phi 2$ is 2.1168 MHz crystal clock.
29, 52, 77	VSS	–	GND
31	XIN	I	Input from crystal clock.
46	$\overline{\text{SCK}}$	I	This terminal is connected to μCOM. It is an input terminal that carries the clock signal for data transfers.
47	R/W	I	This connects with microcomputer and it is an output terminal for switching data transmission mode. it enables to transmit data from SVC to microcomputer when R/M is "L" and from microcomputer to SVC when R/W is "H".
48	$\overline{\text{CS}}$	I	This is a chip select terminal for YM7121.
49	DOUT	O	This terminal is the data output terminal connected to μCOM. When R/W is low, data is transfer-red from YM7121 to μCOM, according to theSCK clock input.
50	WQ	O	This terminal is connected to μCOM. It is a request signal which demands to μCOM inputting the data transfer (YM7121 to μCOM).
51	DIN	I	This is a data input terminal connected to μCOM. When R/W is high, the data is transferred from μCOM to YM7121 according to the SCK clock input.

Pin No.	Symbol	I/O	Function and Operation
53 54	DM + DM –	O O	These terminals output the PWM to control the speed of spindle motor. The speed of the motor goes up when DM + is high, and slows down when DM – is high: both terminals can not become high simultaneously.
55 56 60 61 62 63 64	HF TER TRHD TRGL TROF KP – KP +	I I O O O O O	When tracks are being crossed during serches, the amplitude variation of the generated HF signal is sampled at the zero – cross point of the tracking error signal TER and the TROF signal is output. The level variations of this signal turn the servo on and off, greatly facilitaing track acquisition. KP + or KP – is output to conduct tracking, and TRHD is output during tracking to cause generation of the tracking error signal. The TRGL signal is for increasing the tracking gain after tracking is completed.
57 58 59	FEM + FEM – FEOF	O O O	The FEM + and FEM – are output as high speed feed signals, and FEOF signal is output for cutting the feed servo during high speed feed.
65	TRBK	I	TRBK is input to apply tracking brake from outside. TRGL becomes low with high input and inner control signal TBKE becomes high.
66	SVOF	I	When the signal inputs to SVOF, tracking and feed servo set to OFF. TROF and FEOF become "H" with high input, and TRHD, KP +, KP – become low.
67 58 59	$\overline{\text{FZC}}$ FCS FRF	I O I	These terminals are used for controlling the focus servo. The FCS is for a leading signal of Focusing ; the signal, generated when the focus point is achieved, terminate the focusing operation ; and FCO flag is dropped internally by FRF signal generated when reflected light is detected.
71	$\overline{\text{IC}}$	I	YM7121 needs initializing when power supply turn on. IC will be low more than 400μs since XIN is input clock with VDD standard.
73 74 75	SLVL $\underline{\text{EFMX}}$ EFMX	O O O	Amplitude limited, mutually anti-phased signals are output from EFMX and $\overline{\text{EFMX}}$. Slice level is controlled by these signals and external amplifier. SLVL is output amplitude alteration component of both terminals. When integral circuit is connected to external. YM7121 easily can control slice level.
76	EFMI	I	This terminal is input EFM signal. (1~ 2 Vpp)
78	PCO	O	This terminal outputs the phase difference when the polarity of the clock and the EFM pattern changes.
79	VPLL	I	This terminal is input D.C. voltage matched VCO free run frequency. (17.2872 MHz)
80	1/2 VPLL	O	This terminal outputs a half of VPLL input, and capacity for stabilizing is added to this terminal.

■ AN7374K (IC351) : Dolby IC

1. Block Diagram

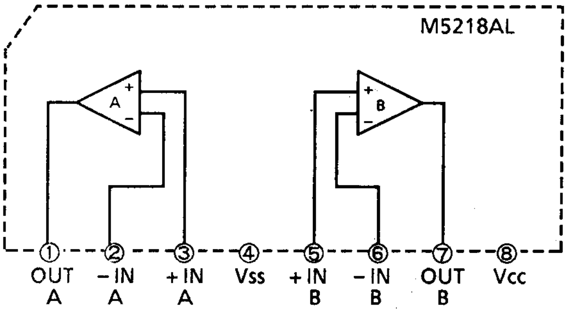

28
27
26
25
24
23
22
21
20
19
18
17
16
15
Mpx -Dr
Line
Rect-H
Rect-L
Vref
Stab
VCR-H
VCR-L
OS-H
OS-L
Buff
SS
AS
Bias
Switch Logic
Buff
SS
AS
OS-H
OS-L
Vref
Lref
VCR-H
VCR-L
Mpx -Dr
Line
Rect-H
Rect-L
1
2
3
4
5
6
7
8
9
10
11
12
13
14

2. Pin function

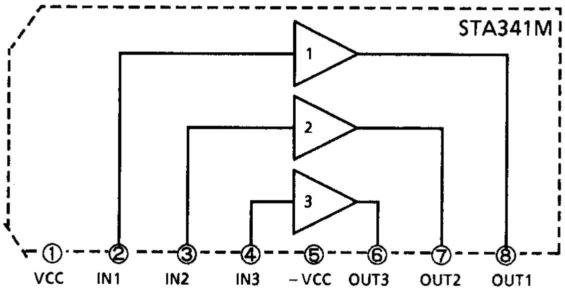
Pin No	Function	Pin No	Function
1	GND	15	Ch. B REC-OUT
2	Ch. A REC-IN	16	Ch. B LLS control signal rectifier
3	C-type/B-type/OFF NR switch	17	Ch. B LLS control resistance
4	Ch. A PB-IN	18	Ch. B HLS control signal rectifier
5	Ch. A MPX filter sriver output	19	Ch. B HLS control resistance
6	Ch. A Processor input	20	Ch. B LINE -OUT
7	Ch. A reference voltage output	21	Reference voltage input
8	Reference curent generator	22	Ch. B reference voltage output
9	Ch. A LINE -OUT	23	Ch. B Processor input
10	Ch. A HLS control resistance	24	Ch. B MPX filter sriver output
11	Ch. A HLS control signal rectifier	25	Ch. B PB-IN
12	Ch. A LLS control resistance	26	PB/REC/PBmpx Mode switch
13	Ch. A LLS control signal rectifier	27	Ch. B REC-IN
14	Ch. A REC-OUT	28	Vcc

Internal Block Diagram of Other ICs

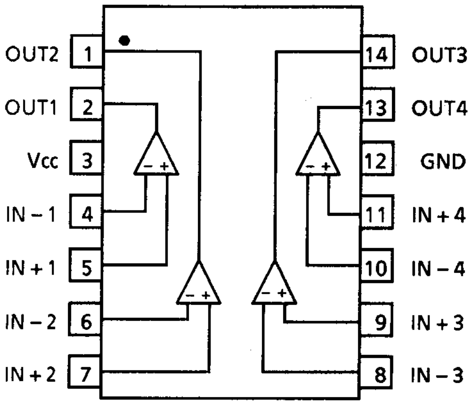
■ M5218AL (IC 762,781,803)


M5218AL
A
B
①
OUT A
②
− IN A
③
+ IN A
④
Vss
⑤
+ IN B
⑥
− IN B
⑦
OUT B
⑧
Vcc

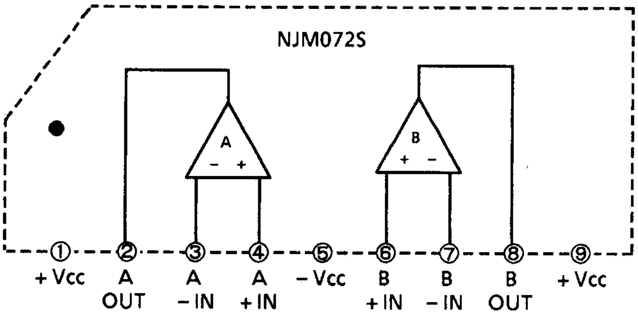
■ STA341M(A) (IC761) : Motor Driver


STA341M
1
2
3
①
VCC
②
IN1
③
IN2
④
IN3
⑤
− VCC
⑥
OUT3
⑦
OUT2
⑧
OUT1

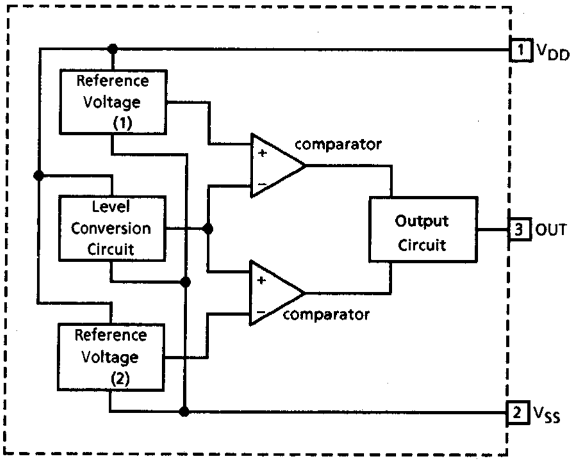
■ XRA/BA10339 (IC802) : Comparator


OUT2 1
OUT1 2
Vcc 3
IN − 1 4
IN + 1 5
IN − 2 6
IN + 2 7
14 OUT3
13 OUT4
12 GND
11 IN + 4
10 IN − 4
9 IN + 3
8 IN − 3

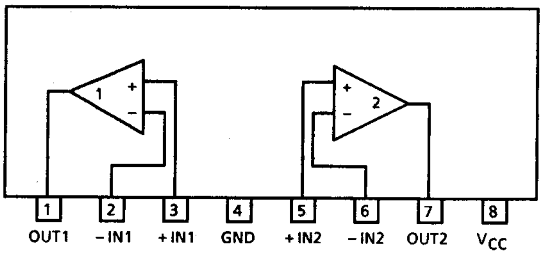
■ NJM072S (IC801) : Dual OP Amp


NJM072S
A
B
①
+ Vcc
②
A OUT
③
A − IN
④
A + IN
⑤
− Vcc
⑥
B + IN
⑦
B − IN
⑧
B OUT
⑨
+ Vcc

■ MN1281 (P.Q) IC952: Reset IC


Reference Voltage (1)
Level Conversion Circuit
Reference Voltage (2)
comparator
comparator
Output Circuit
1 VDD
3 OUT
2 VSS

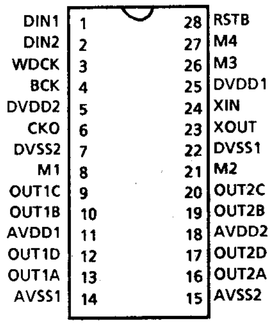
■ XRA/BA15218 (IC871) : Dual OP Amp


1
2
1 OUT1
2 − IN1
3 + IN1
4 GND
5 + IN2
6 − IN2
7 OUT2
8 VCC

Pin No.	Pin Name	Functions
1	V_{DD}	Power supply
2	V_{SS}	Ground
3	OUT	Reset signal output : Low level is output when resetting : High level is output when cancelling the reset.

■ MN35501 (IC873) : D/A converter

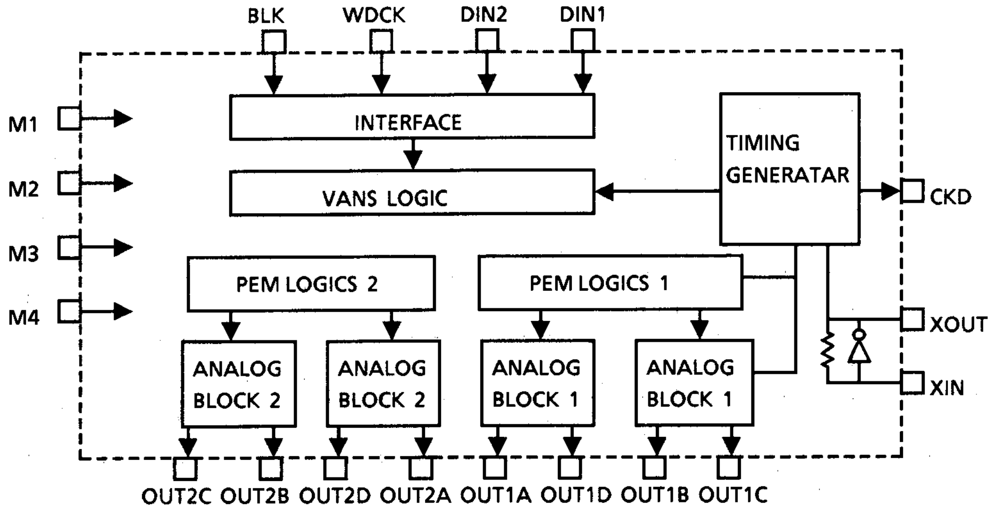
1. Terminal Layout


DIN1 1
DIN2 2
WDCK 3
BCK 4
DVDD2 5
CKO 6
DVSS2 7
M1 8
OUT1C 9
OUT1B 10
AVDD1 11
OUT1D 12
OUT1A 13
AVSS1 14
28 RSTB
27 M4
26 M3
25 DVDD1
24 XIN
23 XOUT
22 DVSS1
21 M2
20 OUT2C
19 OUT2B
18 AVDD2
17 OUT2D
16 OUT2A
15 AVSS2

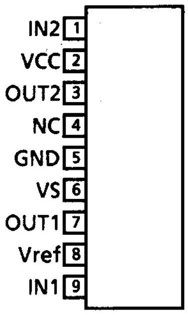
2. Functions

Pin No.	Symbol	I/O	Function
1,2	DIN1, DIN2	I	Serial data input
3	WDCK	I	Word clock input
4	BCK	I	Bit clock input
5	DVDD2	--	Power supply for digital circuit
6	CKO	O	Clock output
7	DVSS2	–	GND for digital circuit
8	M1	I	Input for mode select
9,10	OUT1C, OUT1B	O	PEM signal output (Channel 1)
11	AVDD1	–	Power supply for analog circuit (Channel 1)
12,13	OUT1D ,OUT1A	O	PEM signal output (Channel 1)
14	AVSS1	–	GND for analog circuit (Channel 1)
15	AVSS2	–	GND for analog circuit (Channel 2)
16,17	OUT2A, OUT2D	O	PEM signal output (Channel 2)
18	AVDD2	–	Power supply for analog circuit (Channel 2)
19, 20	OUT2B, OUT2C	O	PEM signal output (Channel 2)
21	M2	I	Input for mode select
22	DVSS1	–	GND for clock circuit
23,24	XOUT, XIN	–	Oscillation terminal
25	DVDD1	–	Power supply for clock circuit
26, 27	M3, M4	I	Input for mode select
28	RSTB	I	Reset input (Low active)

3. Block Diagram


BLK
WDCK
DIN2
DIN1
M1
M2
M3
M4
INTERFACE
VANS LOGIC
TIMING GENERATAR
CKD
PEM LOGICS 2
PEM LOGICS 1
XOUT
XIN
ANALOG BLOCK 2
ANALOG BLOCK 2
ANALOG BLOCK 1
ANALOG BLOCK 1
OUT2C
OUT2B
OUT2D
OUT2A
OUT1A
OUT1D
OUT1B
OUT1C

■ TA8409S (IC451~454) : DC MOTOR DRIVER


IN2 1
VCC 2
OUT2 3
NC 4
GND 5
VS 6
OUT1 7
Vref 8
IN1 9

Function

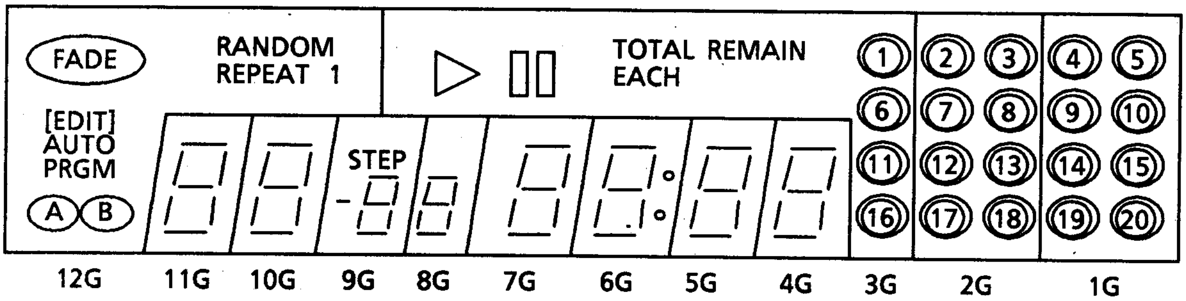
INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	OPEN
0	1	L	H	CLOSE
1	1	L	L	BRAKE

∞: Hight impedance

Internal Connections for the FL Display Tube

■ ELU0001-151:(FL991)

1. Grid Layout


FADE
RANDOM
REPEAT 1
[EDIT]
AUTO
PRGM
A
B
STEP
TOTAL REMAIN
EACH
①②③④⑤
⑥⑦⑧⑨⑩
⑪⑫⑬⑭⑮
⑯⑰⑱⑲⑳
12G
11G
10G
9G
8G
7G
6G
5G
4G
3G
2G
1G

2. Pin Connections

TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
ELECTRODE	F1	F1	NP	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	NP

TERMINAL NO.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
ELECTORODE	NP	NP	NP	NP	NP	NP	NP	S1	S2	S3	S4	S5	S6	S7	S8	S9	NP	F2	F2

(Note) F: Filament G: Grid NP: NoPin NC: No Connection P1~P9: Anode

3. Anode Connection Table

	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
S1	FADE	a	a	a	a	a	a	a	a	(1)	(2)	(4)
S2	[EDIT]	b	b	b	b	b	b	b	b	(6)	(7)	(9)
S3	AUTO	c	c	c	c	c	c	c	c	(11)	(12)	(14)
S4	PRGM	d	d	d	d	d	d	d	d	(16)	(17)	(19)
S5	Ⓐ	e	e	e	e	e	e	e	e	▶	(3)	(5)
S6	Ⓑ	f	f	f	f	f	f	f	f	❚❚	(8)	(10)
S7	RANDOM	g	g	g	g	g	g	g	g	TOTAL	(13)	(15)
S8	REPEAT	----	----	STEP	----	----	° °	----	----	EACH	(18)	(20)
S9	1	----	----	(-)	----	----	----	----	----	REMAIN	----	----

Disassembly Procedures

(NOTE) Cassette deck control P.C.Board

※ Install JB311 on the PCB. (ENJ-073-1) so that it's pin1 which is marked with white will face the front panel side.

■ Top cover removal

1. Remove the screws fastening both sides of the Top cover and rear side.
2. Remove the Top cover spreding both sides and lifting the rear up.

■ Front panel block removal

1. Remove the 2 screws Ⓐ.
2. Disconnect the connectors (P331,P333,P490,P491,P492,P493,P901,FW495,FW496).
3. Remove the 2 screws Ⓕ fixing the front panel.
4. Remove the screw Ⓖ on the bottom.
5. Release the 3 hooks Ⓔ and remove the front panel block.

■ CD mechanism assembly removal

1. Remove the 3 screws of the rear side.
2. Remove the 2 screws Ⓐ fixing the CD mechanism chassis.
3. Take out the CD mechanism assembly with CD PCB after unplugging the connectors (J701,J702,P901).
4. Remove the 3 screws Ⓑ fixing the CD mechanism assembly.
5. Remove the connectors (P801,P802,P803) and the CD mechanism assembly.

■ Tray removal

1. Remove the CD mechanism assembly.
2. Switch on the power of RX-MXS6BK.
   Press the OPEN / CLOSE switch to bring the tray forward and with the tray forward, switch off the power.
3. Remove the screw Ⓒ on the tray.
4. Pull the tray toward the front to move it.

(Note)
If the power does not come on due to breakdown or the insert a Philips screwdriver through the hole at the bottom of the CD the mechanism assembly and turn it counter-clockwise to bring the tray forward Ⓓ.

■ Cassette mechanism assembly removal

1. Remove the front panel assembly.
2. Remove the 8 blue colored screws Ⓗ Ⓘ fixing the cassette mechanism.
3. Push the cassette button and remove the cassette mechanism assembly.

(Note)
The cassette mechanism is grounded through the bottom cover, so when checking the operations with the bottom cover removed (especially when checking the signal system), be sure to ground the chassis by using an alligator clip or other suitable gadget. Also, this mechanism is designed for pack sensing, remember that it can not be operated without any tape.

■ Cassette lid removal

1. Open the doors and slide them in the direction of the arrows.

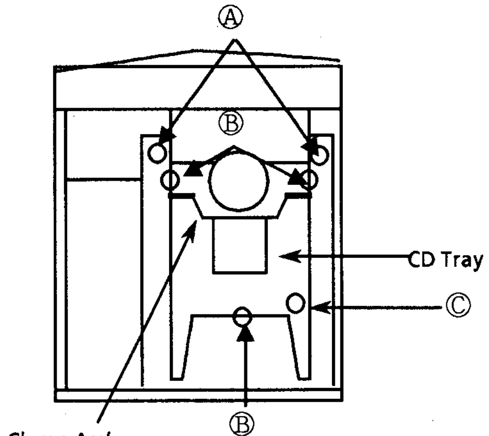


Fig 1

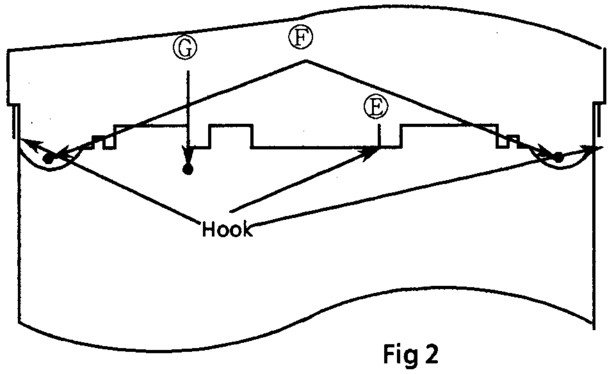


Fig 2

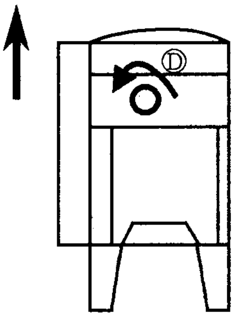


Fig 3

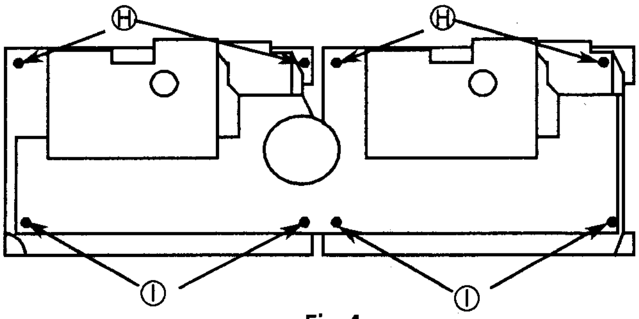


Fig 4

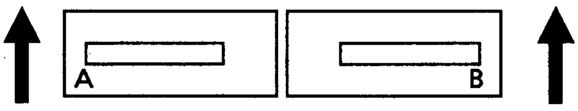


Fig 5

Disassemble of the CD mechanism assembly

■ Pickup removal

1. Remove the cd mechanism assembly.
2. Release the shaft to remove the pickup (Fig 6).

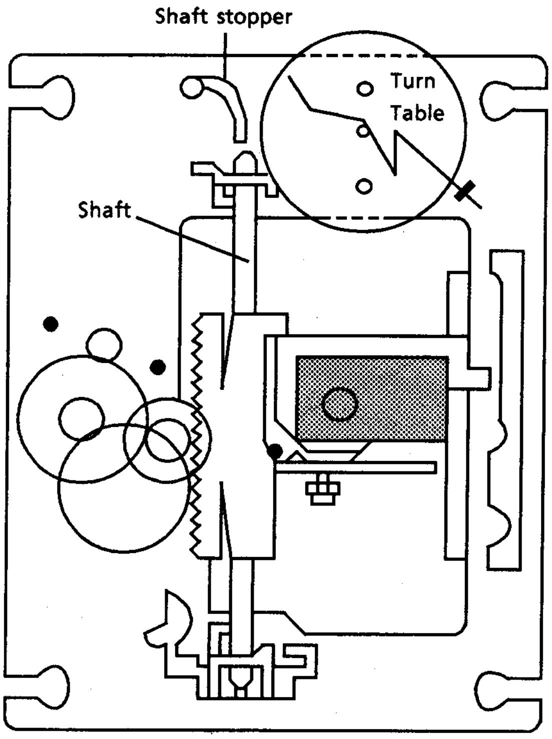


Fig 6 CD mechanism assembly

■ Spindle motor removal

1. Remove the cd mechanism assembly.
2. Remove the turntable, and remove the two screws retaining the spindle motor.
3. Remove the screws retaining the spindle and feed motor P.C. Board and unsolder it.

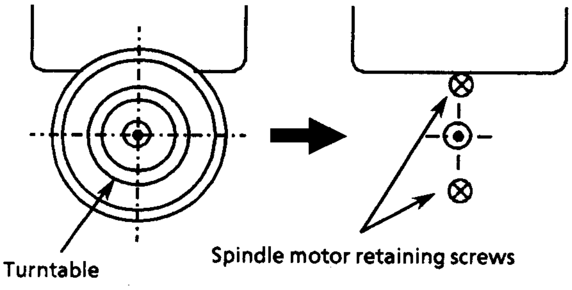


Fig 7

■ Spindle motor installation

1. Tighten the 2 screws to the same torque.
2. Fasten the spindle and feed motor P.C. board with the screw and solder.
3. Install the turntable. When installing, press straight down at the center of the turntable until the distance from the surface of the mechanism base to the turntable is exactly 19.4±0.1mm.

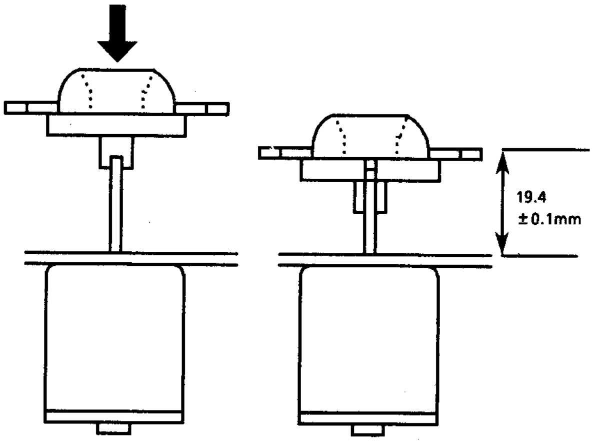


Fig 8

4. After inserting the turntable, bond the motor shaft and turntable together (at the section marked by an arrow in fig 9 on the left below).

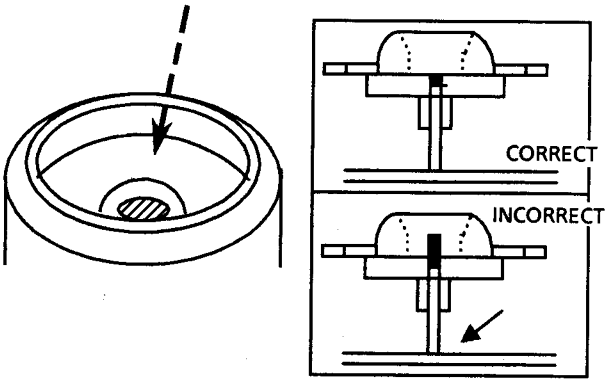


Fig 9

5. Use "LOCKTITE" #460 bonding agent, and apply as little as possible. Take care not to allow any excess bonding agent to get onto the turntable. Be extremely careful not to allow bonding agent to adhere to the motor bearings (the section marked by an allow in fig 9 on the right).

Disassemble of the cassette mechanism

■ Cassette controller PCB (ENJ-073-2) removal

1. Remove the cassette mechanism assembly.
2. Release the 8 hooks to remove the controller PCB (Fig 10).

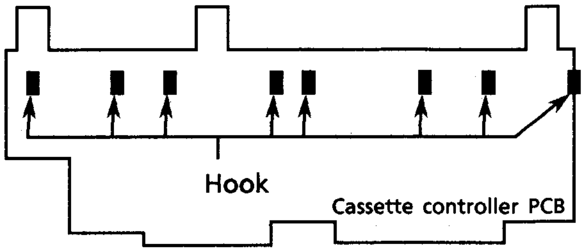

Hook
Cassette controller PCB

Fig 10

■ Head assembly removal

1. Remove the cassette mechanism assembly.
2. Unsolder the flexible wire (Fig 12).
3. Remove the 2 screws Ⓞ fixing the head assembly (Fig 17).

※ Note
The direction of the head is changed with the head gear. When servicing, install the head gear according to the direction of the head. Refer to fig 11.

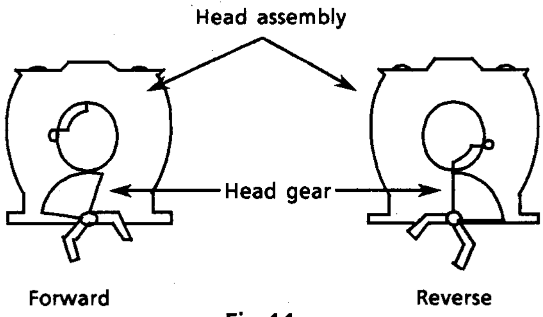

Head assembly
Head gear
Forward
Reverse

Fig 11

■ Pinch roller arm assembly removal

1. Release the return spring (Fig 17).
2. Release the hook holding the pinch roller arm assembly to remove the assembly (Fig 12).

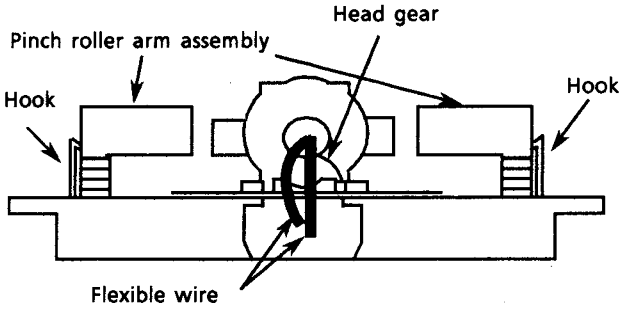

Head gear
Pinch roller arm assembly
Hook
Hook
Flexible wire

Fig 12

■ Reel motor PCB removal

1. Remove the cassette mechanism assembly.
2. Remove the cassette controller PCB.
3. Remove the screw ⓀⒿ fixing the reel motor PCB.
4. Unsolder the reel motor PCB.
5. Remove the PCB.
   Be careful so that stress is not added to the terminals of the motor.

■ Capstan motor removal

1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCBs.
3. Remove the 4 screws Ⓚ fixing the bracket (Fig 13).
4. Remove the motor with the bracket,
5. Remove the 2 screws fixing the motor and the bracket.

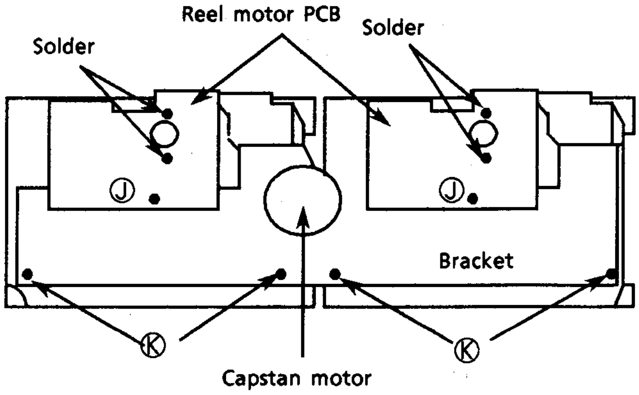

Reel motor PCB
Solder
Solder
Ⓙ
Ⓙ
Bracket
Ⓚ
Ⓚ
Capstan motor

Fig 13

■ Reel motor removal

1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCB.
3. Remove the FR arm assembly (Fig 17).
4. Remove the screw Ⓝ fixing the motor (Fig 17).
5. Remove the hooks fixing the motor to remove the motor.

■ Fly wheel removal

1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCB.
3. Remove the screws Ⓚ and the bracket (Fig 13).

※ To install the bracket

1. Install the belt of mechanism A as shown in fig 14.
2. Assemble the mechanism A and the bracket with the capstan motor.
3. Hang the belt of the mechanism A to the motor pully using a tweezers and the like.
4. Hang the part Ⓛ to the Idler pully.
5. Install the mechanism B installed the belt as shown in fig 16 to the bracket which is assembled with the mechanism A.
6. Hang the part Ⓜ to the motor pully using a tweezers and the like.

■ Cam switch PCB removal

1. Remove the fly wheel.
2. Remove the hooks fixing the PCB to remove the cam switch. When assembling the cam switch, install it so that the part Ⓟ meets the part Ⓠ (Fig 18).

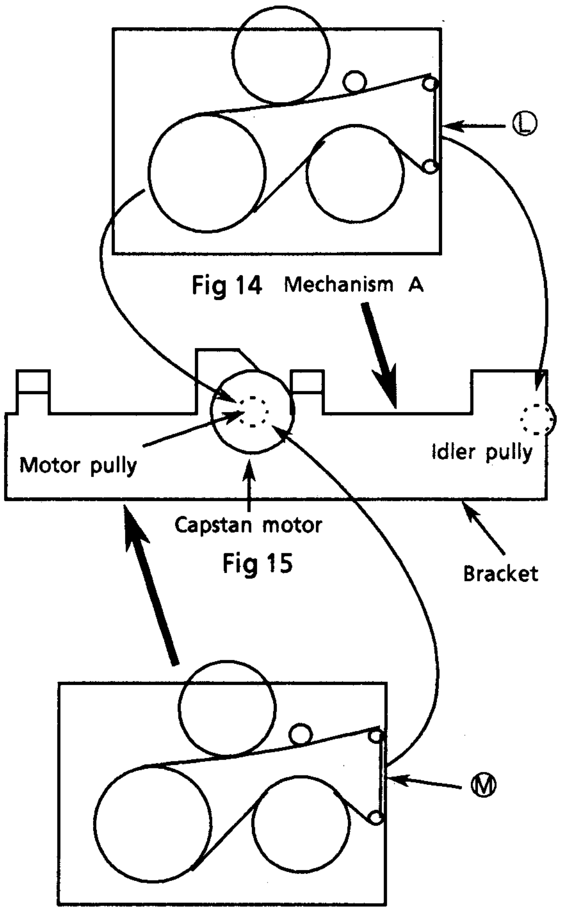

Ⓛ
Mechanism A
Motor pully
Idler pully
Capstan motor
Bracket
Ⓜ
Mechanism B

Fig 14 Mechanism A

Fig 15

Fig 16 Mechanism B

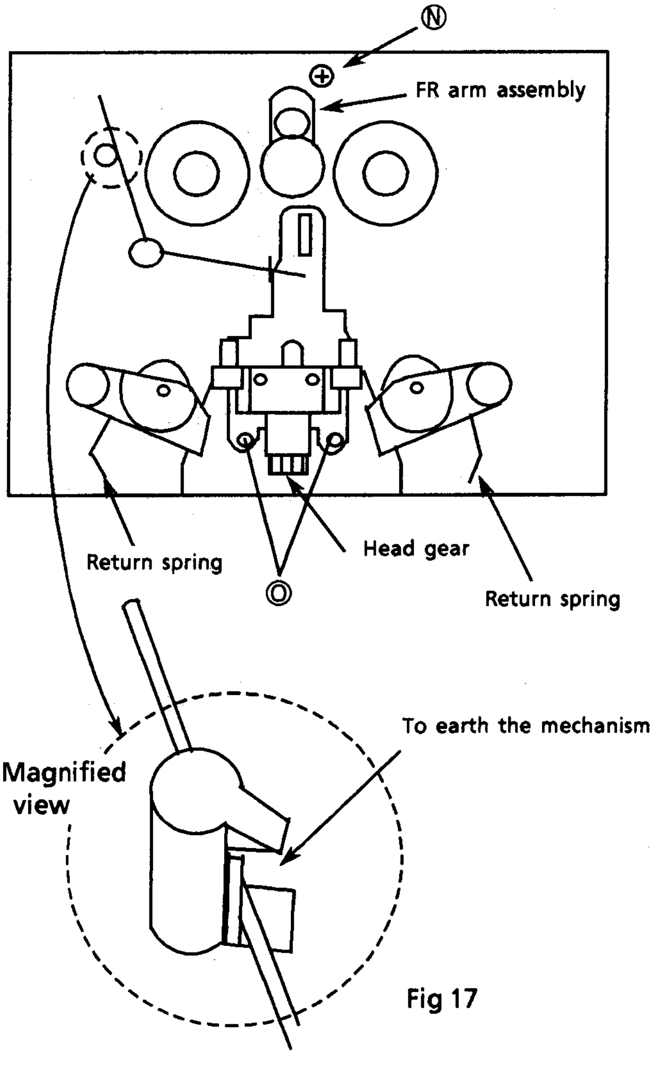

Ⓝ
⊕
FR arm assembly
Return spring
Head gear
Ⓞ
Return spring
To earth the mechanism
Magnified view

Fig 17

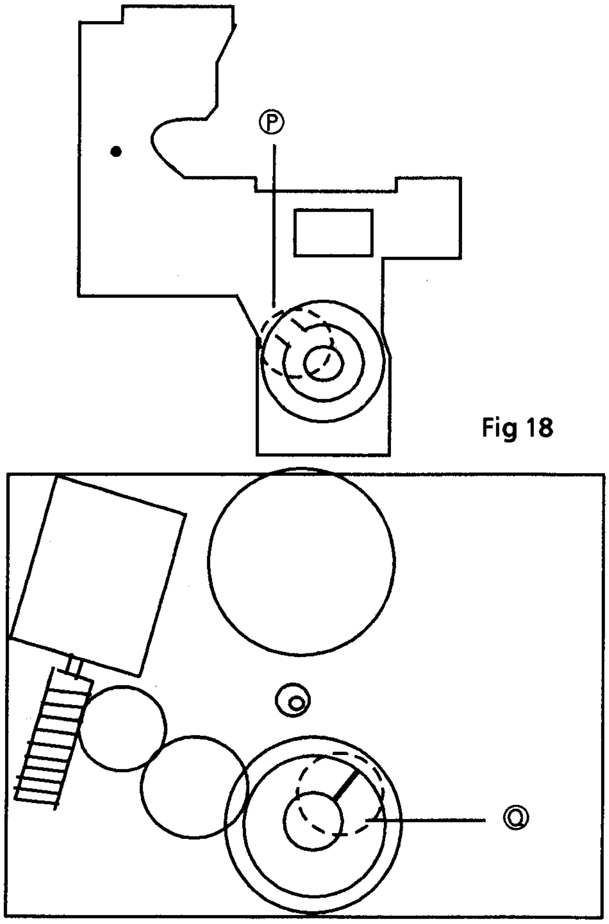
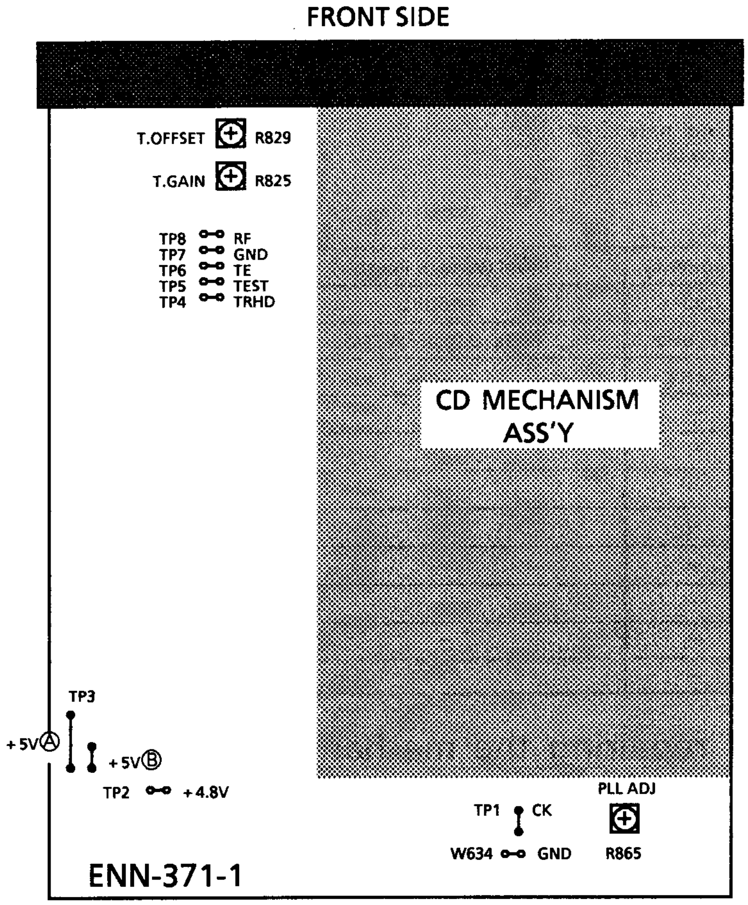


Fig 18

Adjustment Procedures

■CD section


FRONT SIDE
T.OFFSET
R829
T.GAIN
R825
TP8
RF
TP7
GND
TP6
TE
TP5
TEST
TP4
TRHD
CD MECHANISM ASS'Y
TP3
+5VⒶ
+5VⒷ
TP2
+4.8V
PLL ADJ
TP1
CK
W634
GND
R865
ENN-371-1

*** Use RX-MXS6BK when adjusting.**

1. PLL free-running adjustment
   1) Measuring instrument : Frequency counter
   2) Adjusting procedure
      (1) Connect a frequency counter with TP1 (CK :W608) and W634 (GND) on the main PC board.
      (2) Adjust R865 for setting the frequency counter's value becomes 4.295 ± 0.005MHz.

2. Tracking gain adjustment
   1) Measuring instruments : Oscilloscope, Normal disc
   2) Adjusting procedure
      (1) Connect an oscilloscope with TP6 (TE) and TP7 (GND) on the main PC board.
      (2) Play a disc.
      (3) Short circuit TP5 (TEST) to TP7 (GND).
      (4) Adjust R825 for setting tracking error signal becomes 2.0 $V_{p.p}$.

3. Tracking offset adjustment
   1) Measuring instruments : Oscilloscope, Normal disc
   2) Adjusting procedure
      (1) Connect an oscilloscope with TP6 (TE) and TP7 (GND) on the main PC board.
      (2) Play a disc.
      (3) Short circuit TP5 (TEST) to TP7 (GND).
      (4) Adjust R829 for setting the DC level of the tracking error (off set) becomes 0.
      Note : Adjust R829 for setting the waveform becomes symmetrical around the 0 level.

Adjustment Procedures (Cassette Deck)

1. Measuring instruments

Audio frequency signal generator (0dbs output at the 600 ohm output terminal from 50Hz to 20KHz)
Electronic voltmeter
Frequency counter
Wow & Flutter meter
Distortion Meter with band pass filter
Attenuator (600 ohm impedance)
A resistor with 600Ω

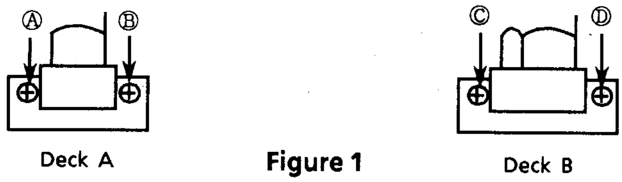
Standard Tape

0dBs = 0.775V

Tape No.	Frequency	Level (Wow & Fkutter)	Purpose
VTT-703L	10kHz	- 10dBs	Head azimuth , Frequency Response
VTT-712	3000Hz	0dBs 0.025%WRMS	Tape Speed , Wow & Flutter
VTT-724	1kHz	- 4dBs	Standard Level
TMT-6447	–	–	Blunk Skip
TMT-6247 , TMT-6237	–	–	Music Scan
TMT-7046	–	–	Recording standard Normal : UR
AC-712	–	–	Recording standard METAL :MA
AC-513	–	–	Recording standard CrO_2 : SA
TW-2111, TW-2121	–	–	Forward / reverse play torque measuring
TW-2231	–	–	Feed forward / rewind torque measuring
C-120 Tape	–	–	Comfirming the tape running

2. Adjustment and repairing the mechanism

Item	Adjustment method	Standard value	Remarks
Head azimuth	Deck A 1. Connect an electronic voltmeter to the DOLBY TP(figure 3) to playback VTT-703L. 2. Adjust screw Ⓐ so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed. 3. Adjust screw Ⓑ so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed. Deck B 4. Adjust screw © so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed. 5. Adjust screw Ⓓ so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed. 6. After making the adjustment,apply screw lock to prevent screws Ⓐ , Ⓑ , © and Ⓓ coming loose .	Maximum	1. **Refer to figure 1.** 2. When the specified characteristic cannot be obtained because of head wear, excessive magnetization, etc., replace the head assembly and adjust the head azimuth. Also, perform the electric adjustment. 3. When there is the difference of more than 3 ~ 4 dB between left and right output levels, replace the head assembly to avoid complaints.
Playback torque	1. Measure the torque in the playback mode by the torque meter.	26 ~ 62 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Fast forward torque	1. Measure the torque in the fast forward mode by the torque meter.	80 ~ 200 g-cm	When the standard torque cannot be obtained,replace the FR arm assembly or motor.
Rewind torque	1. Measure the torque in the rewind mode by the torque meter.	80~ 200 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Wow & flutter	1. Connect the wow & flutter meter to the DOLBY TP(figure 3) and play back VTT-712 . 2. Its reading should be within 0.2% (WTD).	Less than 0.2%	As a complaint may occur if the wow & flutter fluctuates by 0.1% even though it is allowed in the standard, repairing is required.



Deck A

Figure 1

Deck B

3. Electrical Adjustments (Make the following adjustments after adjusting the head azimuth.)

In principle, the adjustments should be made in the following sequence.
Set the NR switch to OFF and the BEAT CUT switch to "1".
Adjustments marked with an asterisk (*) should always be made after the head is replaced

0dBs = 0.775V.

Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
Tape Speed	1. Connect a frequency counter to the DOLBY TP(figure 3) and play back VTT-712. 2. Adjust the semi-fixed resistor VR481 on ENJ-074-1.	VR481	3,000 Hz ± 10Hz	Connect a wow & flutter meter with a built-in frequency counter to the speaker terminals.
Standard level (Playback Level)	1. Connect an electronic voltmeter to the DOLBY TP (figure 3). Play back VTT-724 (1 kHz : −4dBs) to adjust the semi-fixed resistors.	**Deck A** L: VR453 R: VR454 **Deck B** L: VR281 R: VR282	400mV	1) The playback level varies when the head is replaced so should be adjusted. Use an electronic voltmeter with an impedance of 100 kΩ or more.
Playback Frequency Response	1. Connect an electronic voltmeter to the DOLBY TP (figure 3). 2. Play VTT-703L (10kHz : −10dBs) and adjust semi-fixed resistors to obtain the standard values.	**Deck A** L: VR451 R: VR452 **Deck B** L: VR283 R: VR284	200mV	—
Recording Bias Frequency	1. Connect a frequency counter to the BIAS TP(figure 3), and perform a recording to adjust bias frequency.	L331	100 kHz ±5 kHz	Set the BEAT CUT SWITCH to "1".
Record / Play Frequency Response (Bias current)	Supply 100Hz / 1kHz / 10kHz, 30mV signals to AUX terminal. Record them with the NR switch off. While playing back, adjust VR331 and VR 332 so that the variation of output of 100Hz / 10kHz to the output of 1kHz satisfies the standard value.	L : VR331 R : VR332	0 ± 3 dB for 100Hz 0 ± 2dB for 10kHz	**Refer to figure 2 below.** 1) The recording and playback frequencies of a cassette deck are adjusted by adjusting the bias. 2) Perform the adjustment with normal tape and confirm that the values are within the range for metal tape.

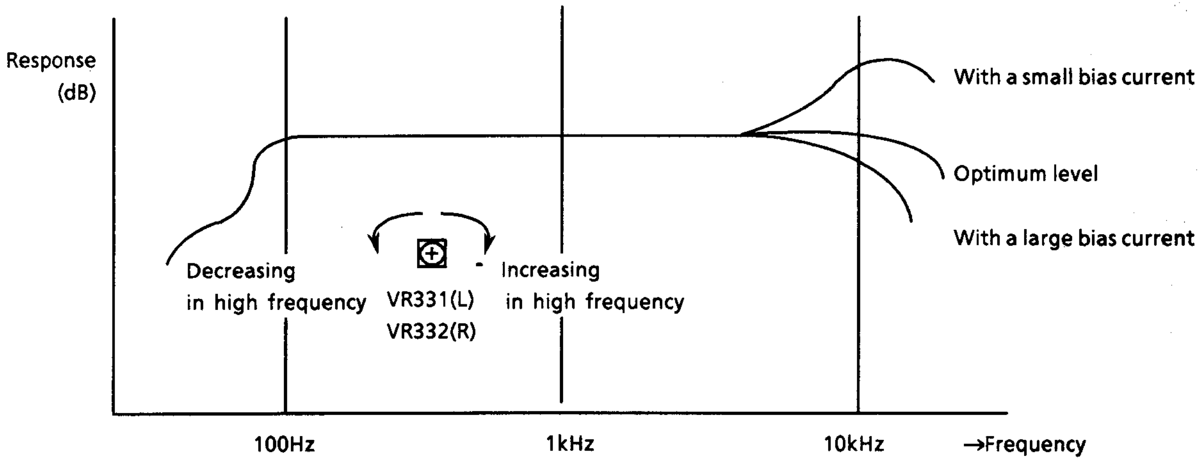


Figure 2

Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
Record / Playback Sensitivity	1. Input a 1kHz (300mV) signal to AUX terminal and record it with a normal tape. 2. Connect an electronic voltmeter to the DOLBY TP(figure 3) to confirm the values. 3. If the values are not satisfied, adjust the semi-fixed resistors and record the signal again to confirm the values.	L : VR311 R : VR312	400mV	Adjust with normal tape and make sure that the left / right level difference is 1.0dB or less
Recording / playback distortion	1) Input a 1 kHz (300mV) to AUX terminal and record it. 2) Play it back and check the speaker out with a distortion meter to make sure it is within the criterion.		less than 3% (Normal/ CrO_2)	Perform after the record / play frequency response and recording /playback sencitivity adjustments.
Recording / playback S/N ratio	1) Input a 1 kHz (300mV) signal to AUX terminal and record it. While recording, remove the input and record without the signal. 2) Connect a electronic voltmeter to the speaker terminals to measure the output levels. 3) Confirm that the output level ratio between the signals with a 1kHz and no signal is more than 40dB.		more than 40 dB (Normal/ CrO_2)	
Erase ratio check	1. Record a music source using the Metal tape. 2. Rewind and erase the recorded section. 3. Comfirm nothing can be heard.	–	–	–
Music Scan	1. Make sure not to work the music scanning operation at the start of tape wind. 2. Make sure to work the music scanning operation at the end of tape wind.	–	–	–

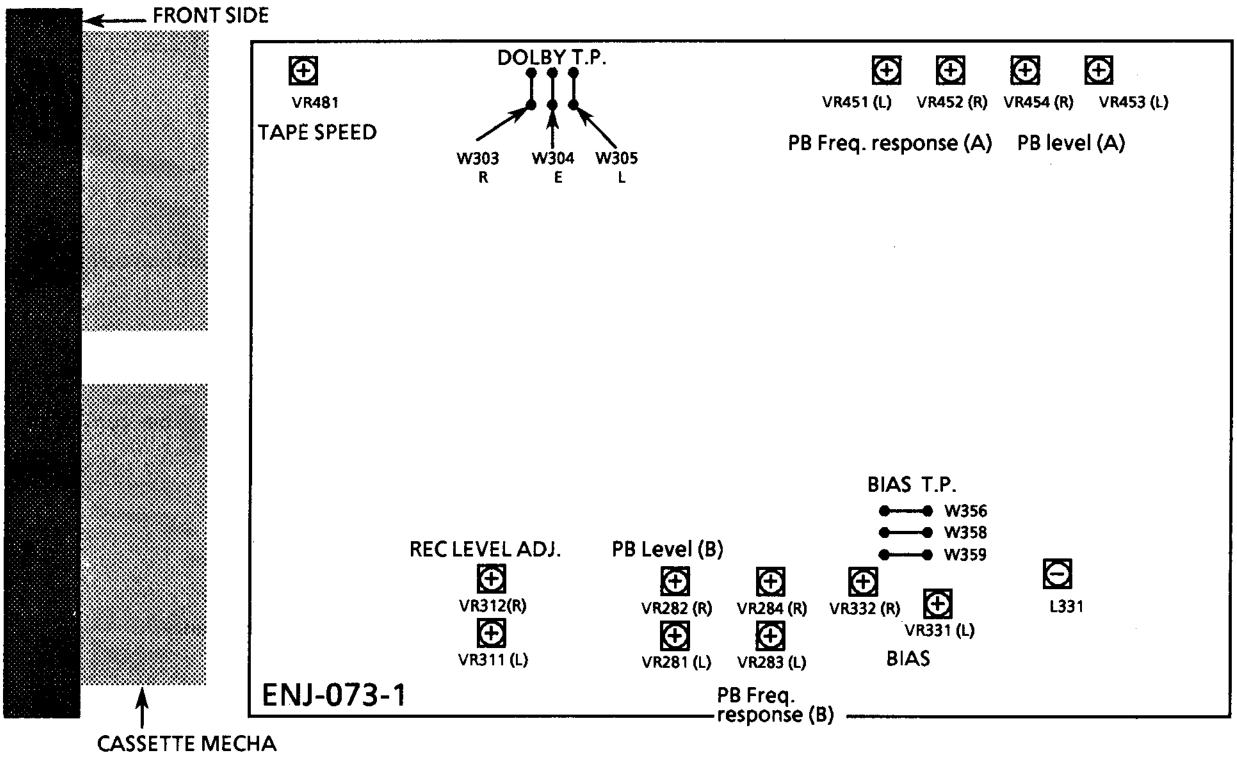

FRONT SIDE
VR481
TAPE SPEED
DOLBY T.P.
W303 R
W304 E
W305 L
VR451 (L)
VR452 (R)
VR454 (R)
VR453 (L)
PB Freq. response (A)
PB level (A)
BIAS T.P.
W356
W358
W359
REC LEVEL ADJ.
VR312(R)
VR311 (L)
PB Level (B)
VR282 (R)
VR284 (R)
VR281 (L)
VR283 (L)
VR332 (R)
VR331 (L)
BIAS
L331
ENJ-073-1
PB Freq. response (B)
CASSETTE MECHA

Figure 3

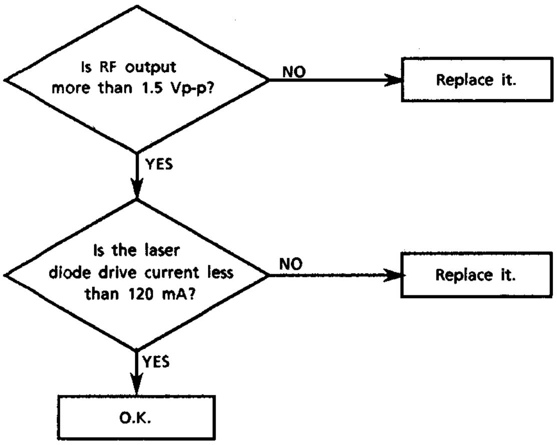
Maintenance of Laser Pickup

1. Life of the laser diode

When the life of the laser diode has expired, the following symptoms will appear.

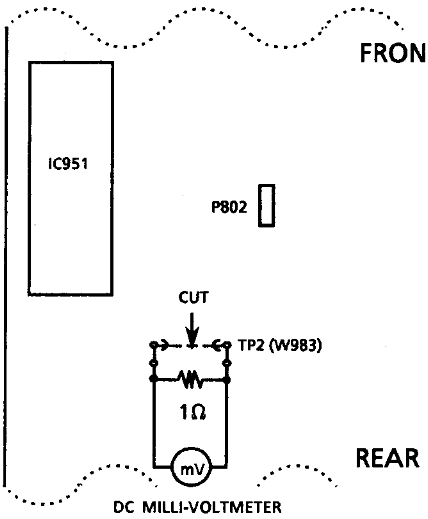
(1) The level of RF output (EFM output: amplitude of eye pattern) will be low.

(2) The drive current required by the laser diode be increased.
In such a case, check the life of the laser diode following the flowchart below


Is RF output more than 1.5 Vp-p?
NO
Replace it.
YES
Is the laser diode drive current less than 120 mA?
NO
Replace it.
YES
O.K.

2. Measurement of laser diode drive current

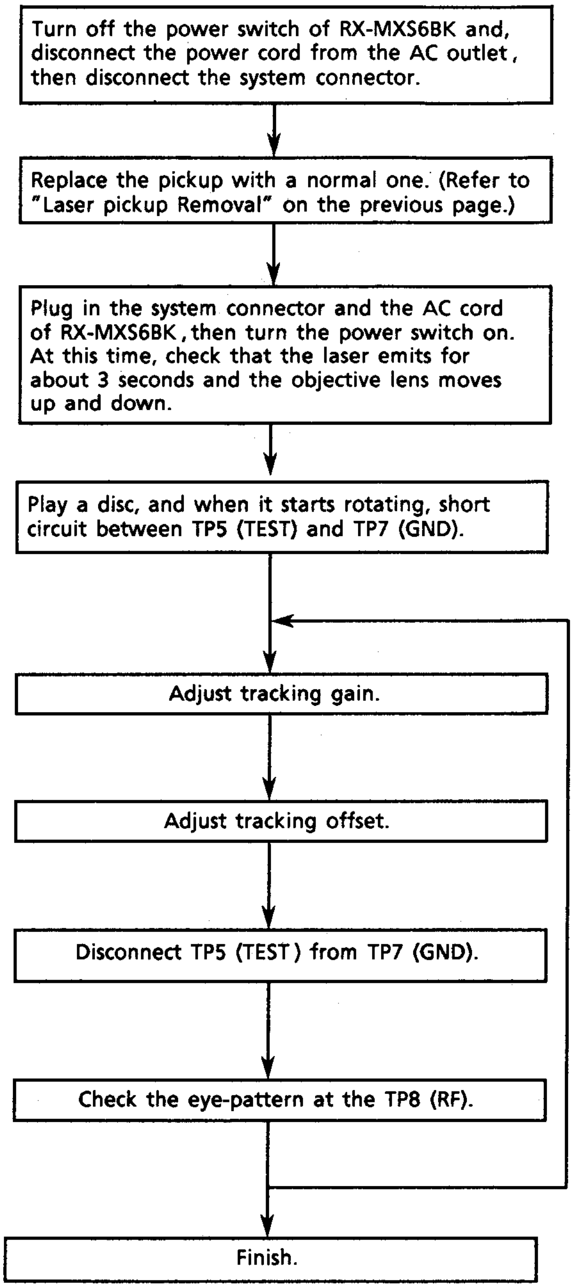
Replace the jump wire TP2(W983) shown below with the resistor (1Ω).
Measure the voltage across the resistor with a milli-voltmeter. When the voltage is more than 180mV, it shows that the life of the laser diode has expired.



3. Semi-fixed resistor on the APC PC board

The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.
If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.
If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

Replacement of Laser Pickup


Turn off the power switch of RX-MXS6BK and, disconnect the power cord from the AC outlet, then disconnect the system connector.

Replace the pickup with a normal one. (Refer to "Laser pickup Removal" on the previous page.)

Plug in the system connector and the AC cord of RX-MXS6BK, then turn the power switch on. At this time, check that the laser emits for about 3 seconds and the objective lens moves up and down.

Play a disc, and when it starts rotating, short circuit between TP5 (TEST) and TP7 (GND).

Adjust tracking gain.

Adjust tracking offset.

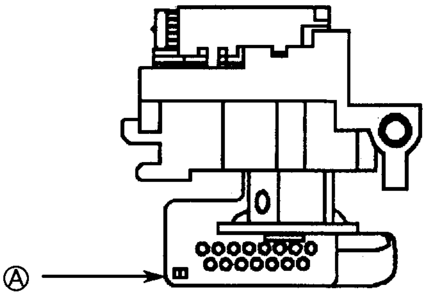
Disconnect TP5 (TEST) from TP7 (GND).

Check the eye-pattern at the TP8 (RF).

Finish.

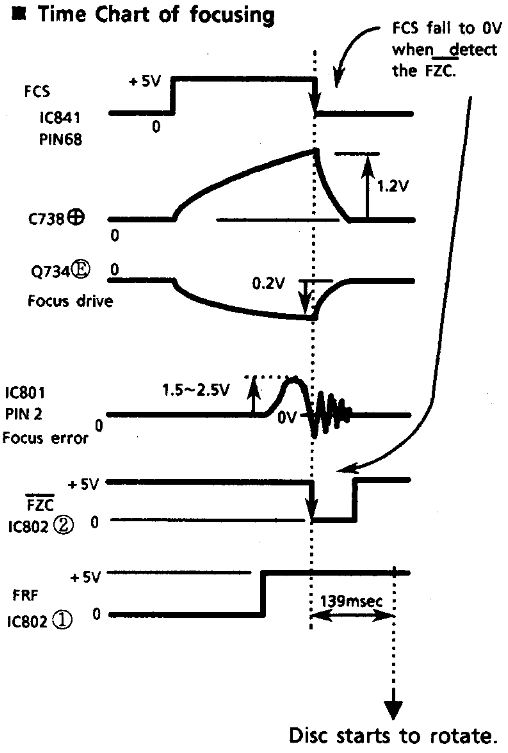
Note : Since one adjustment may affect other settings, repeat these adjustments a few times.

Before installing the pickup
Unsolder the part Ⓐ, which is used for countermeasure for static electricity.



Flow of Functional Operation Until TOC is Read

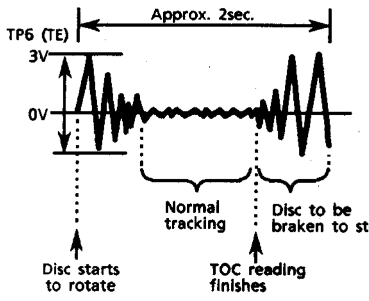
■ Time Chart of focusing



- When the lens moves up and down in a 2-seconds interval, FZC is not output.
- When the lens moves up and down in less than 1-second, FRF is not output or the focus servo loop is abnormal.

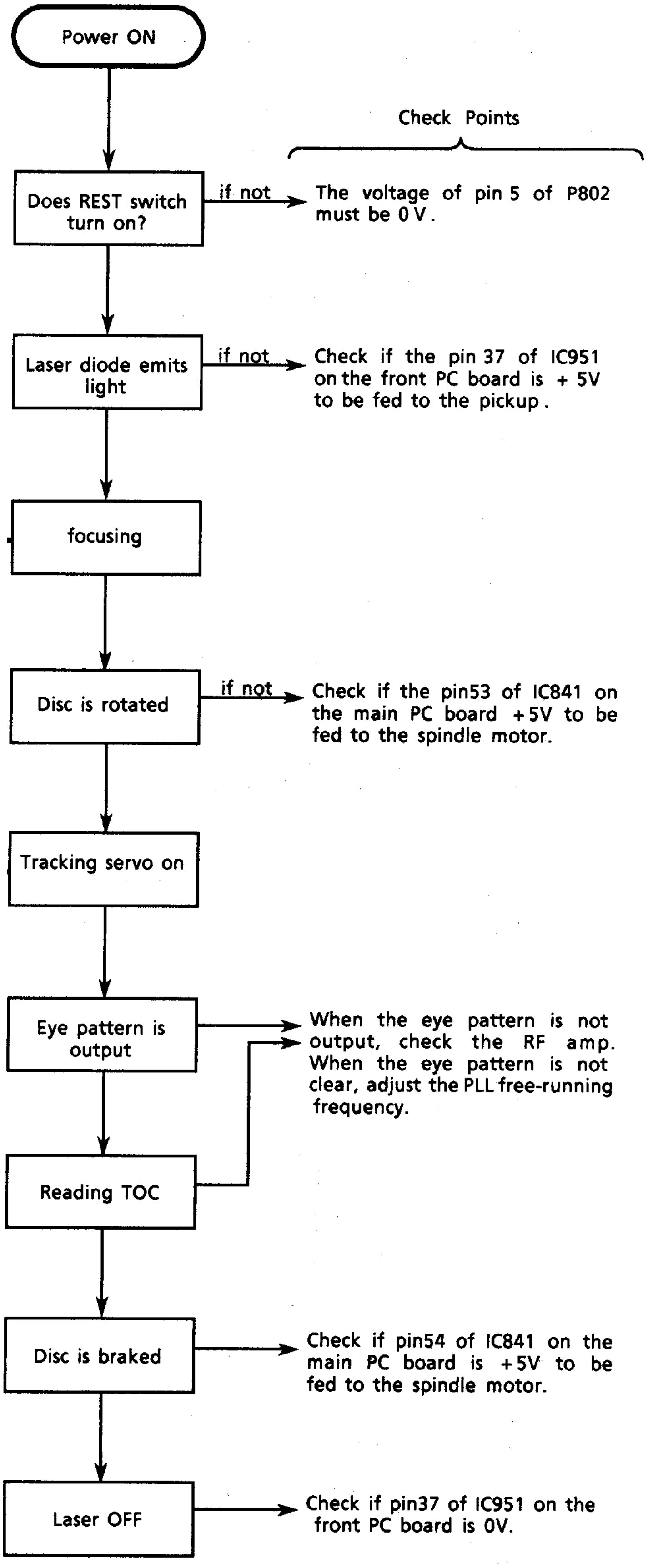
Fig-1

■ Tracking error waveform at TOC reading



■ When the tracking loop does not turn ON, check the tracking offset and align it to 0.

Fig-2


Power ON
Does REST switch turn on?
if not
Laser diode emits light
if not
focusing
Disc is rotated
if not
Tracking servo on
Eye pattern is output
Reading TOC
Disc is braked
Laser OFF
Check Points

The voltage of pin 5 of P802 must be 0 V.

Check if the pin 37 of IC951 on the front PC board is + 5V to be fed to the pickup.

Check if the pin53 of IC841 on the main PC board +5V to be fed to the spindle motor.

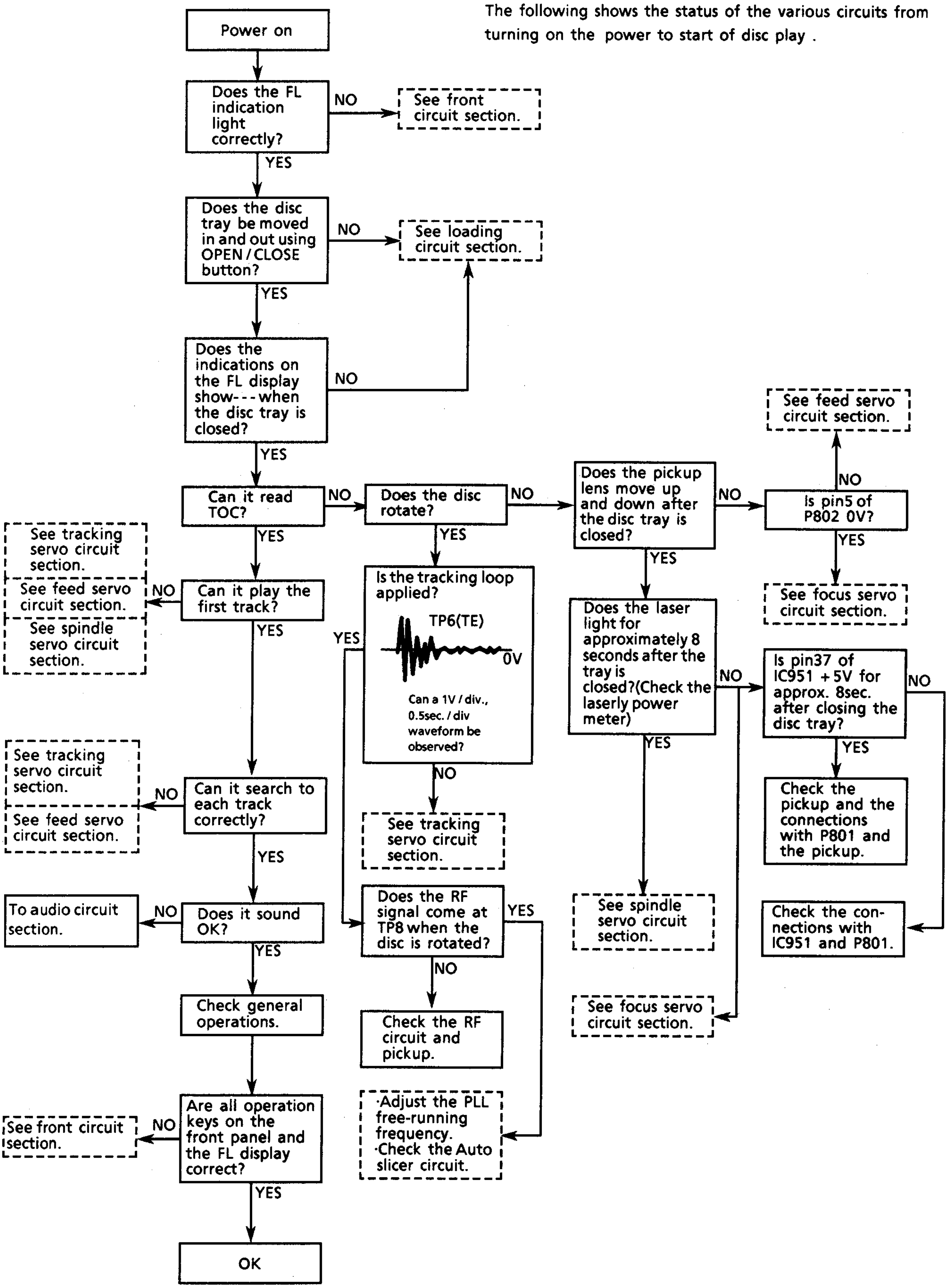
When the eye pattern is not output, check the RF amp. When the eye pattern is not clear, adjust the PLL free-running frequency.

Check if pin54 of IC841 on the main PC board is +5V to be fed to the spindle motor.

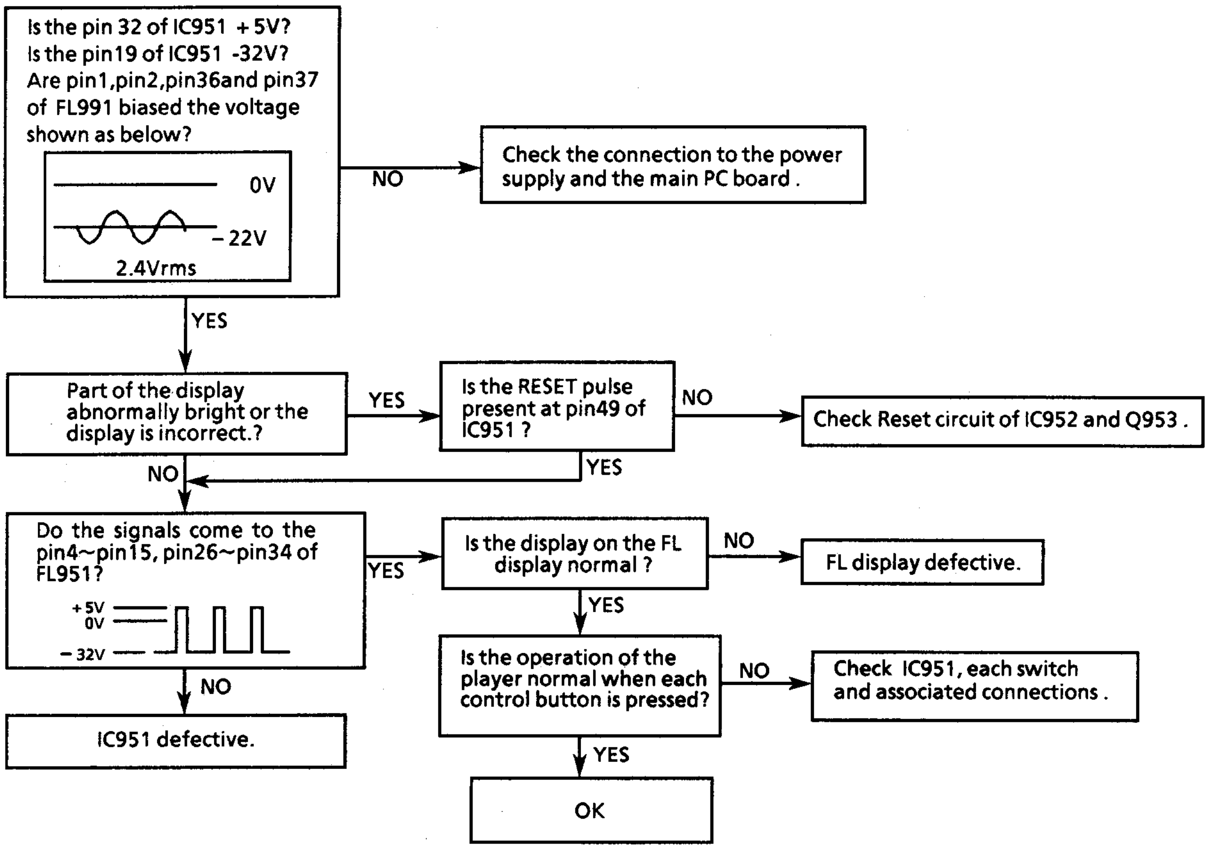
Check if pin37 of IC951 on the front PC board is 0V.

Troubleshooting

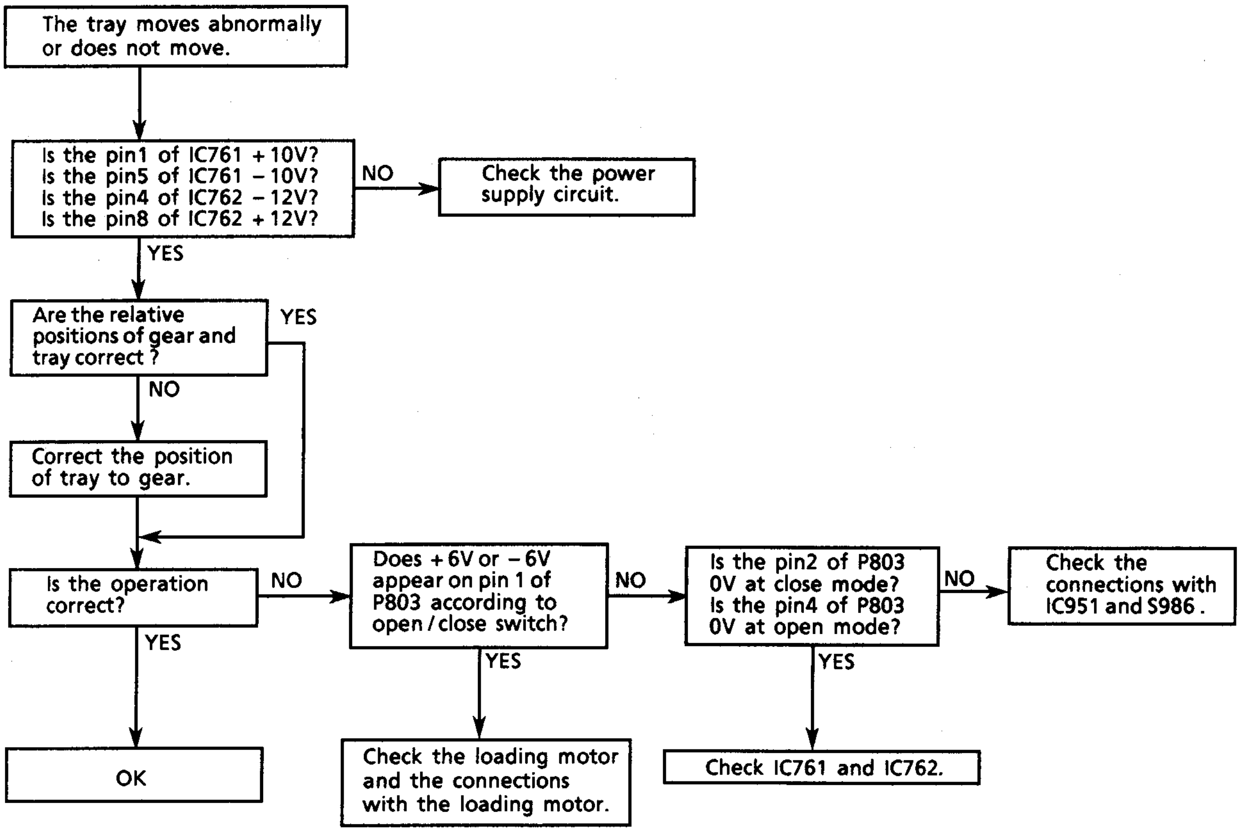
The following shows the status of the various circuits from turning on the power to start of disc play .


Power on
Does the FL indication light correctly?
NO
See front circuit section.
YES
Does the disc tray be moved in and out using OPEN / CLOSE button?
NO
See loading circuit section.
YES
Does the indications on the FL display show- - - when the disc tray is closed?
NO
YES
Can it read TOC?
NO
Does the disc rotate?
NO
Does the pickup lens move up and down after the disc tray is closed?
NO
Is pin5 of P802 0V?
NO
See feed servo circuit section.
YES
See focus servo circuit section.
YES
Can it play the first track?
NO
See tracking servo circuit section.
See feed servo circuit section.
See spindle servo circuit section.
YES
Is the tracking loop applied?
TP6(TE)
0V
Can a 1V / div., 0.5sec. / div waveform be observed?
YES
NO
See tracking servo circuit section.
YES
Does the laser light for approximately 8 seconds after the tray is closed?(Check the laserly power meter)
NO
Is pin37 of IC951 +5V for approx. 8sec. after closing the disc tray?
NO
YES
Check the pickup and the connections with P801 and the pickup.
Check the connections with IC951 and P801.
YES
See spindle servo circuit section.
See focus servo circuit section.
Can it search to each track correctly?
NO
See tracking servo circuit section.
See feed servo circuit section.
YES
Does it sound OK?
NO
To audio circuit section.
YES
Check general operations.
Does the RF signal come at TP8 when the disc is rotated?
YES
NO
Check the RF circuit and pickup.
·Adjust the PLL free-running frequency.
·Check the Auto slicer circuit.
Are all operation keys on the front panel and the FL display correct?
NO
See front circuit section.
YES
OK

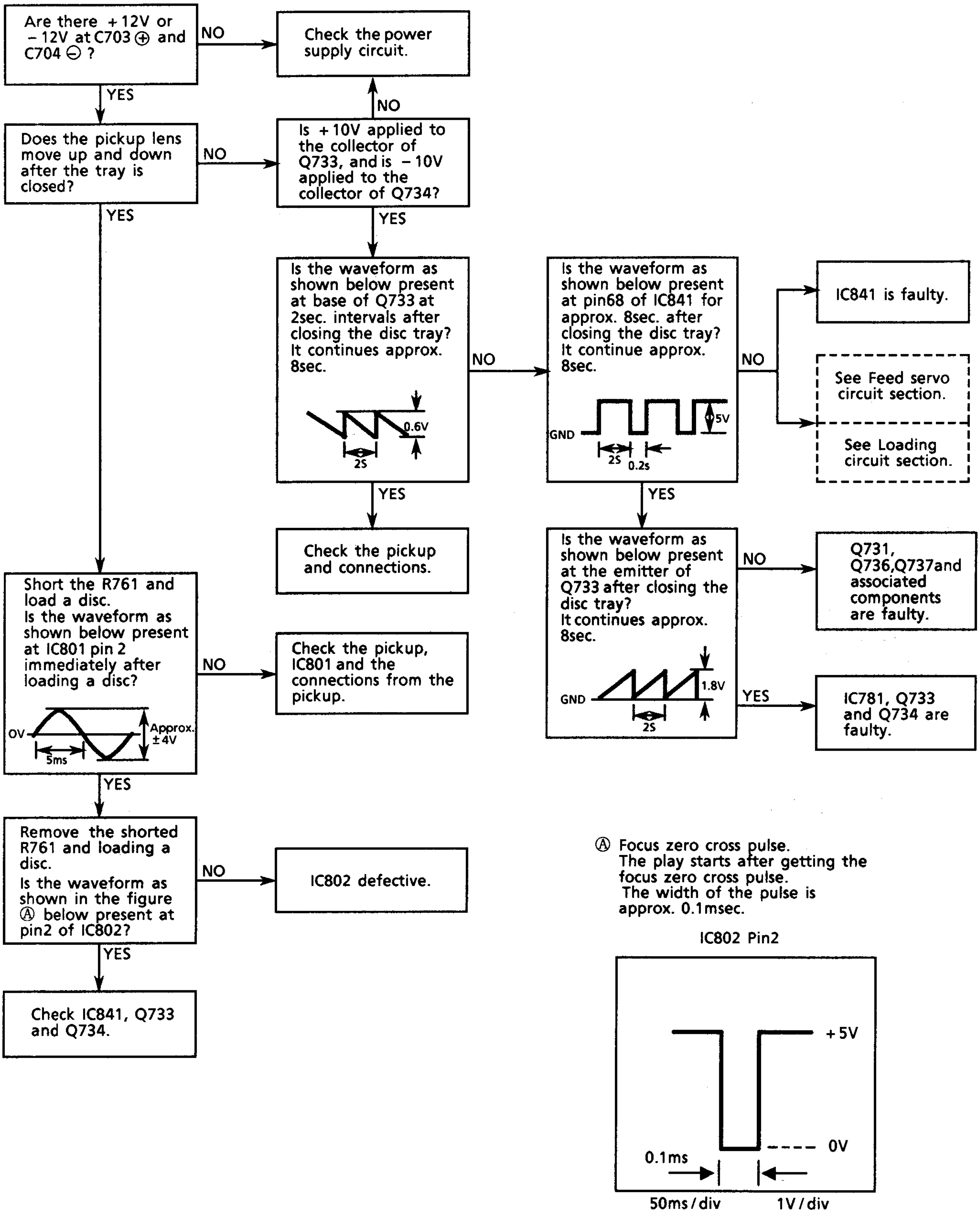
Front circuit Section


Is the pin 32 of IC951 +5V?
Is the pin19 of IC951 -32V?
Are pin1,pin2,pin36and pin37 of FL991 biased the voltage shown as below?
0V
– 22V
2.4Vrms
NO
Check the connection to the power supply and the main PC board .
YES
Part of the display abnormally bright or the display is incorrect.?
YES
Is the RESET pulse present at pin49 of IC951 ?
NO
Check Reset circuit of IC952 and Q953 .
YES
NO
Do the signals come to the pin4~pin15, pin26~pin34 of FL951?
+5V
0V
– 32V
YES
Is the display on the FL display normal ?
NO
FL display defective.
YES
Is the operation of the player normal when each control button is pressed?
NO
Check IC951, each switch and associated connections .
YES
OK
NO
IC951 defective.

Loading circuit section

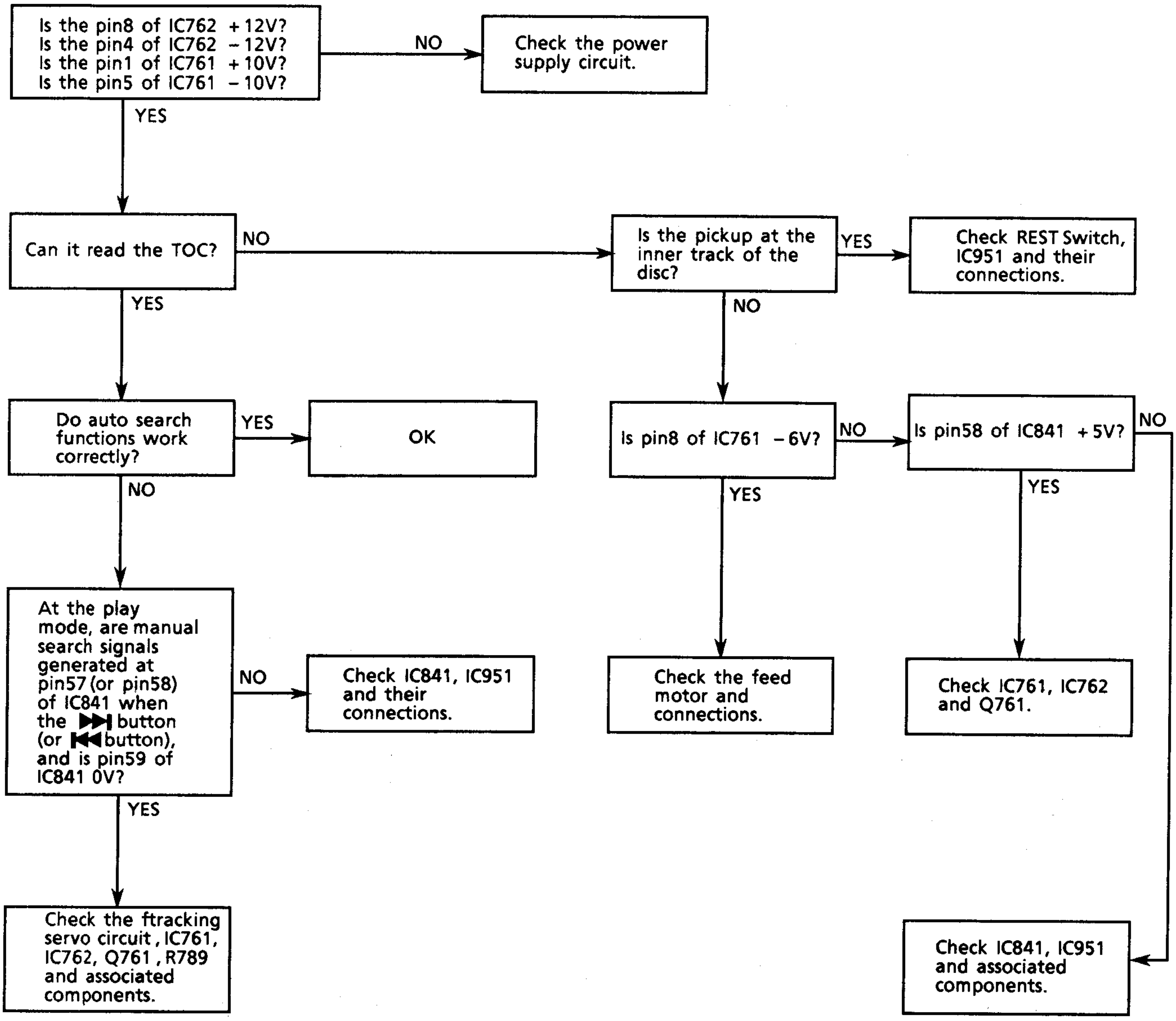

The tray moves abnormally or does not move.
Is the pin1 of IC761 +10V?
Is the pin5 of IC761 – 10V?
Is the pin4 of IC762 – 12V?
Is the pin8 of IC762 +12V?
NO
Check the power supply circuit.
YES
Are the relative positions of gear and tray correct ?
YES
NO
Correct the position of tray to gear.
Is the operation correct?
NO
Does +6V or – 6V appear on pin 1 of P803 according to open / close switch?
NO
Is the pin2 of P803 0V at close mode?
Is the pin4 of P803 0V at open mode?
NO
Check the connections with IC951 and S986 .
YES
OK
YES
Check the loading motor and the connections with the loading motor.
YES
Check IC761 and IC762.

Focus circuit section

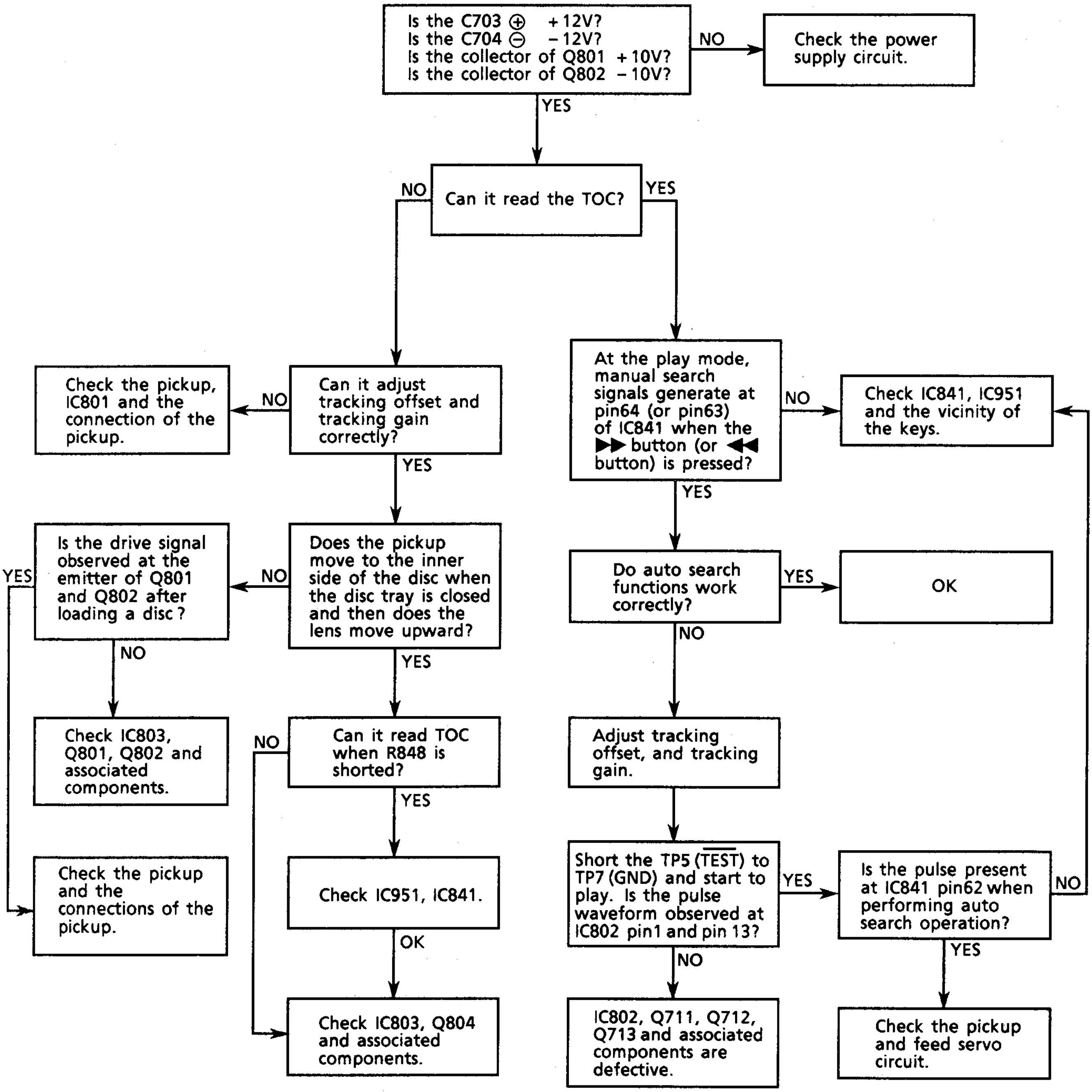

Are there +12V or −12V at C703 ⊕ and C704 ⊖ ?
NO
Check the power supply circuit.
YES
NO
Does the pickup lens move up and down after the tray is closed?
NO
Is +10V applied to the collector of Q733, and is −10V applied to the collector of Q734?
YES
YES
Is the waveform as shown below present at base of Q733 at 2sec. intervals after closing the disc tray? It continues approx. 8sec.
0.6V
2S
NO
Is the waveform as shown below present at pin68 of IC841 for approx. 8sec. after closing the disc tray? It continue approx. 8sec.
GND
5V
2S
0.2s
NO
IC841 is faulty.
See Feed servo circuit section.
See Loading circuit section.
YES
Check the pickup and connections.
YES
Is the waveform as shown below present at the emitter of Q733 after closing the disc tray? It continues approx. 8sec.
GND
1.8V
2S
NO
Q731, Q736,Q737and associated components are faulty.
YES
IC781, Q733 and Q734 are faulty.
Short the R761 and load a disc. Is the waveform as shown below present at IC801 pin 2 immediately after loading a disc?
OV
Approx. ±4V
5ms
NO
Check the pickup, IC801 and the connections from the pickup.
YES
Remove the shorted R761 and loading a disc. Is the waveform as shown in the figure Ⓐ below present at pin2 of IC802?
NO
IC802 defective.
YES
Check IC841, Q733 and Q734.
IC802 Pin2
+5V
0V
0.1ms
50ms/div
1V/div

Ⓐ Focus zero cross pulse.
The play starts after getting the focus zero cross pulse.
The width of the pulse is approx. 0.1msec.

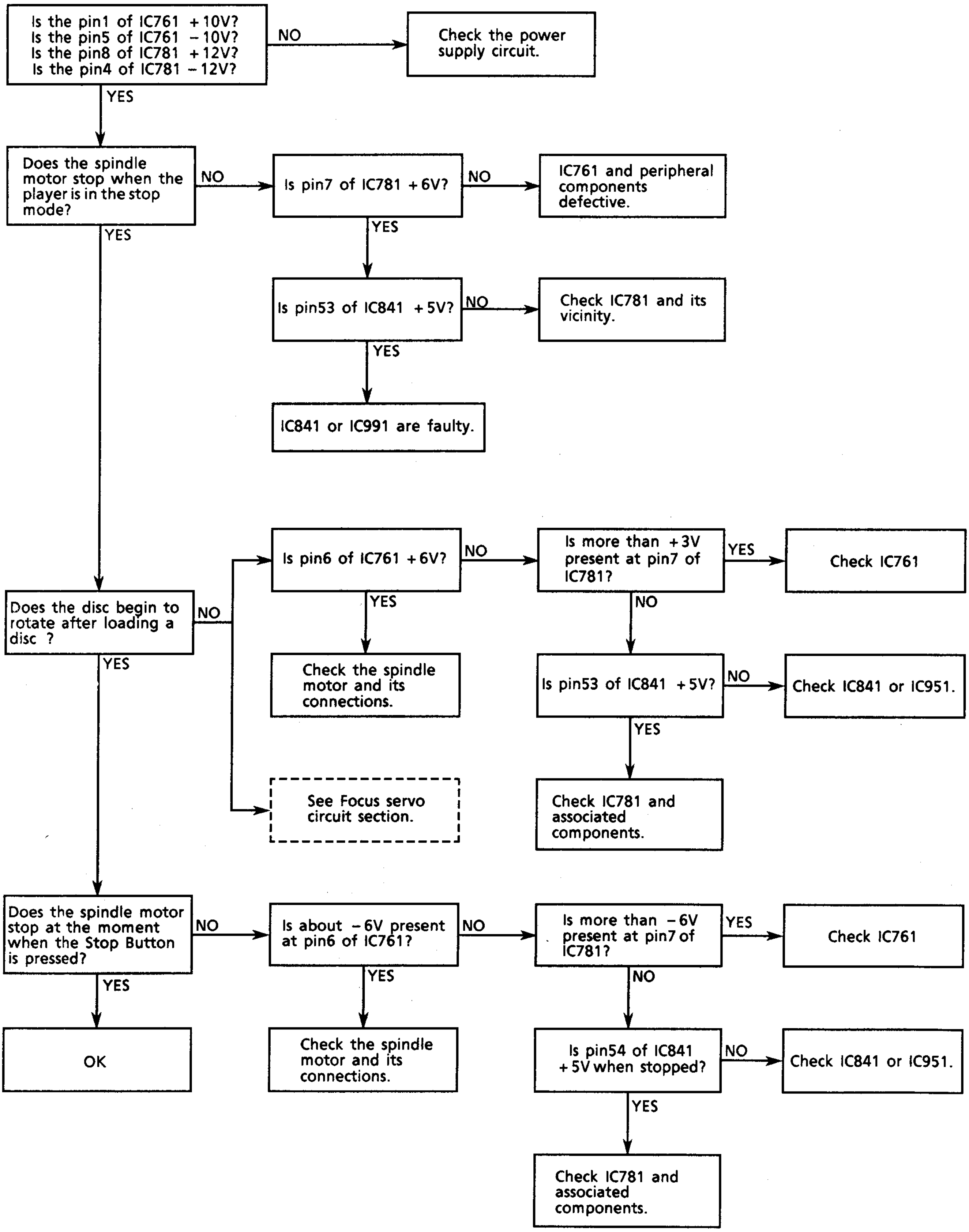
Feed circuit section


Is the pin8 of IC762 +12V?
Is the pin4 of IC762 −12V?
Is the pin1 of IC761 +10V?
Is the pin5 of IC761 −10V?
NO
Check the power supply circuit.
YES
Can it read the TOC?
NO
Is the pickup at the inner track of the disc?
YES
Check REST Switch, IC951 and their connections.
YES
Do auto search functions work correctly?
YES
OK
NO
Is pin8 of IC761 −6V?
NO
Is pin58 of IC841 +5V?
NO
NO
YES
YES
At the play mode, are manual search signals generated at pin57 (or pin58) of IC841 when the ⏭ button (or ⏮ button), and is pin59 of IC841 0V?
NO
Check IC841, IC951 and their connections.
Check the feed motor and connections.
Check IC761, IC762 and Q761.
YES
Check the ftracking servo circuit, IC761, IC762, Q761, R789 and associated components.
Check IC841, IC951 and associated components.

Tracking circuit section


Is the C703 ⊕ +12V? Is the C704 ⊖ −12V? Is the collector of Q801 +10V? Is the collector of Q802 −10V?
NO
Check the power supply circuit.
YES
Can it read the TOC?
NO
YES
Check the pickup, IC801 and the connection of the pickup.
NO
Can it adjust tracking offset and tracking gain correctly?
YES
At the play mode, manual search signals generate at pin64 (or pin63) of IC841 when the ▶▶ button (or ◀◀ button) is pressed?
NO
Check IC841, IC951 and the vicinity of the keys.
YES
YES
Is the drive signal observed at the emitter of Q801 and Q802 after loading a disc?
NO
Does the pickup move to the inner side of the disc when the disc tray is closed and then does the lens move upward?
Do auto search functions work correctly?
YES
OK
NO
YES
NO
Check IC803, Q801, Q802 and associated components.
NO
Can it read TOC when R848 is shorted?
Adjust tracking offset, and tracking gain.
YES
Check the pickup and the connections of the pickup.
Check IC951, IC841.
Short the TP5 (TEST) to TP7 (GND) and start to play. Is the pulse waveform observed at IC802 pin1 and pin 13?
YES
Is the pulse present at IC841 pin62 when performing auto search operation?
NO
OK
NO
YES
Check IC803, Q804 and associated components.
IC802, Q711, Q712, Q713 and associated components are defective.
Check the pickup and feed servo circuit.

Spindle circuit section

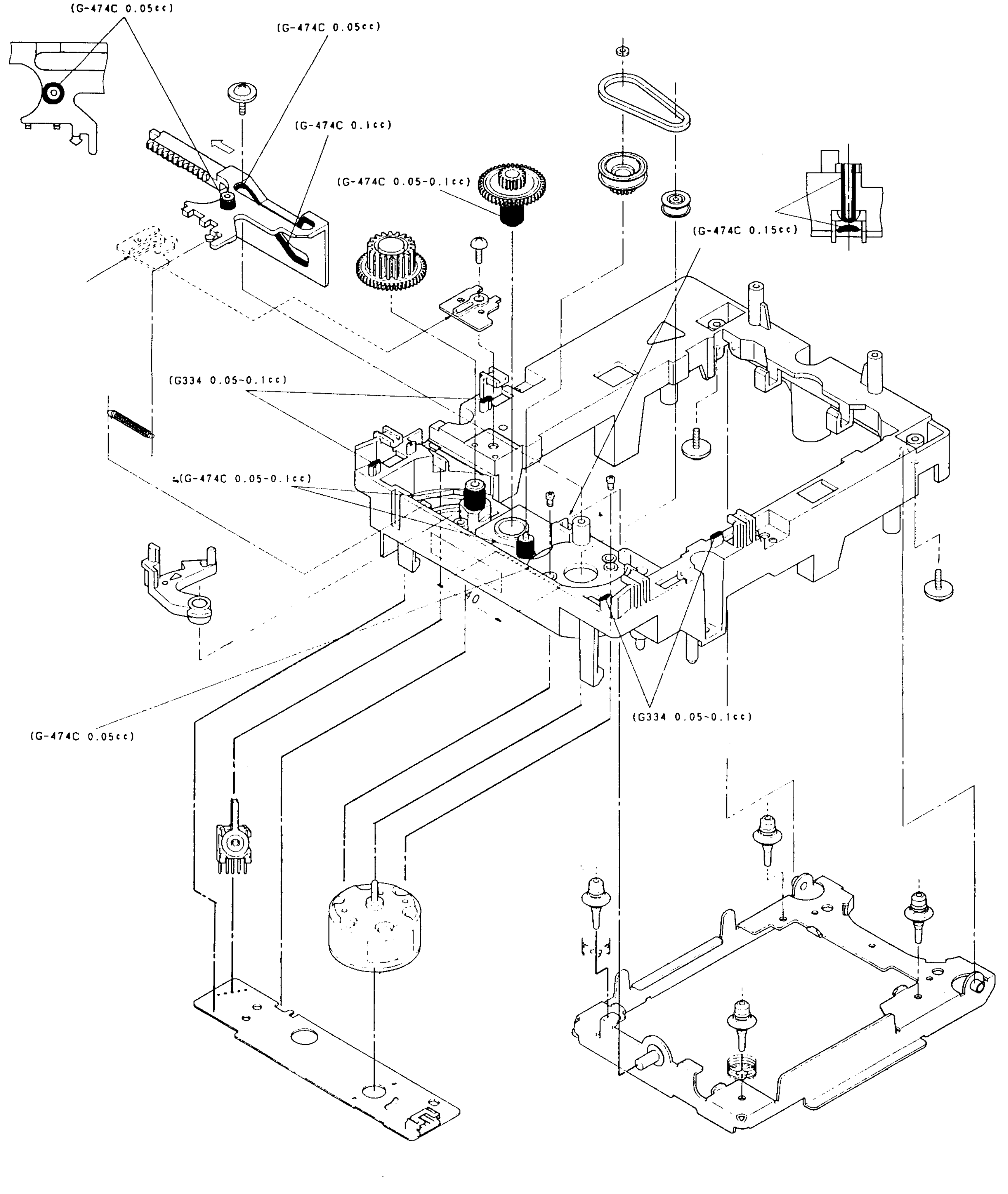

Is the pin1 of IC761 +10V?
Is the pin5 of IC761 −10V?
Is the pin8 of IC781 +12V?
Is the pin4 of IC781 −12V?
NO
Check the power supply circuit.
YES
Does the spindle motor stop when the player is in the stop mode?
NO
Is pin7 of IC781 +6V?
NO
IC761 and peripheral components defective.
YES
Is pin53 of IC841 +5V?
NO
Check IC781 and its vicinity.
YES
IC841 or IC991 are faulty.
YES
Does the disc begin to rotate after loading a disc ?
NO
Is pin6 of IC761 +6V?
NO
Is more than +3V present at pin7 of IC781?
YES
Check IC761
NO
Is pin53 of IC841 +5V?
NO
Check IC841 or IC951.
YES
Check IC781 and associated components.
YES
Check the spindle motor and its connections.
See Focus servo circuit section.
YES
Does the spindle motor stop at the moment when the Stop Button is pressed?
NO
Is about −6V present at pin6 of IC761?
NO
Is more than −6V present at pin7 of IC781?
YES
Check IC761
NO
Is pin54 of IC841 +5V when stopped?
NO
Check IC841 or IC951.
YES
Check IC781 and associated components.
YES
Check the spindle motor and its connections.
YES
OK

Exploded View of Assemblies and Application Points for Grease

Grease used

■ G-334 (Shin-Etsu Chemical Co., Ltd.)

■ G-474C (Kanto Chemical Co., Ltd.)

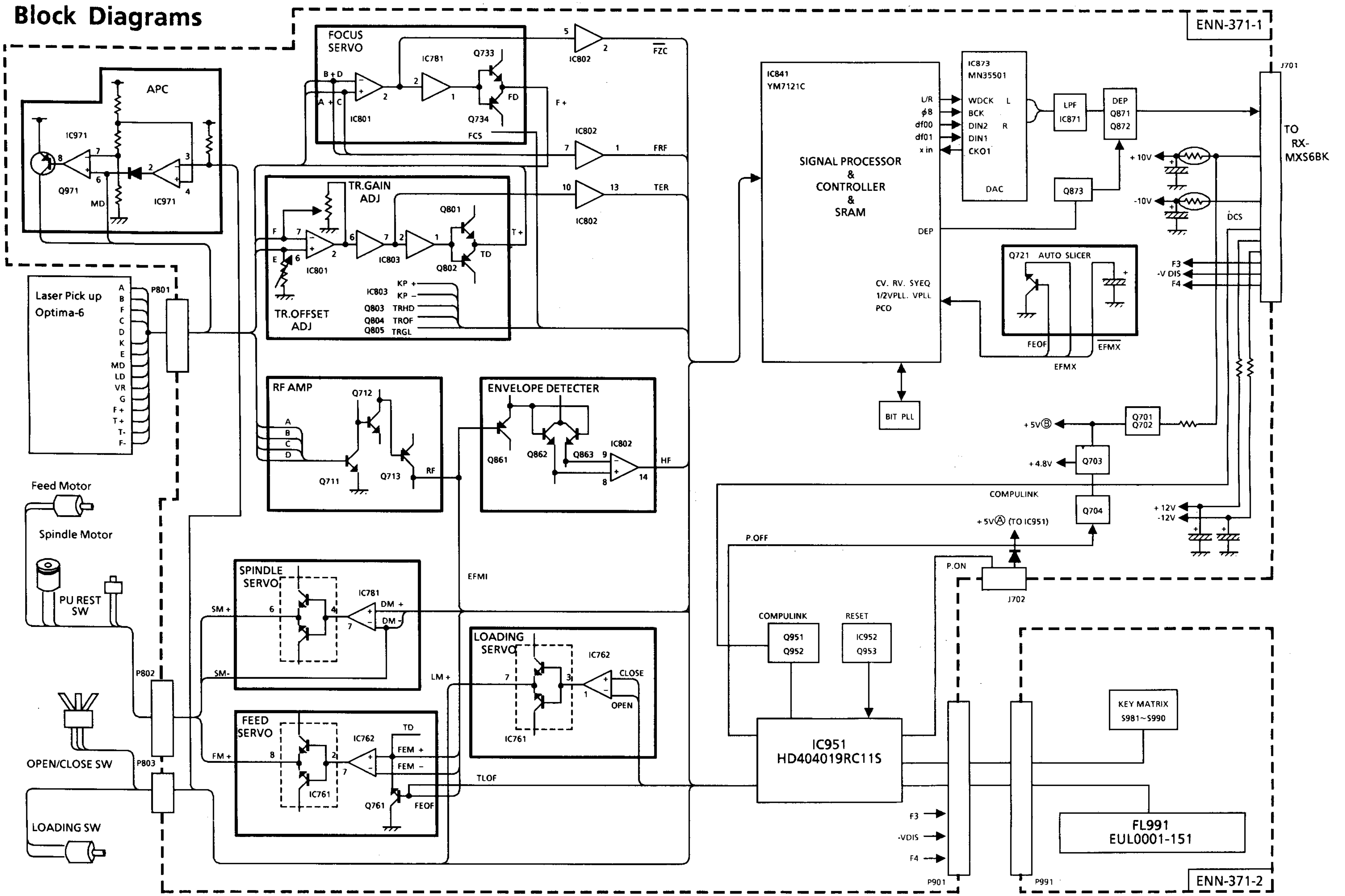

(G-474C 0.05cc)
(G-474C 0.05cc)
(G-474C 0.1cc)
(G-474C 0.05-0.1cc)
(G-474C 0.15cc)
(G334 0.05~0.1cc)
(G-474C 0.05~0.1cc)
(G-474C 0.05cc)
(G334 0.05~0.1cc)

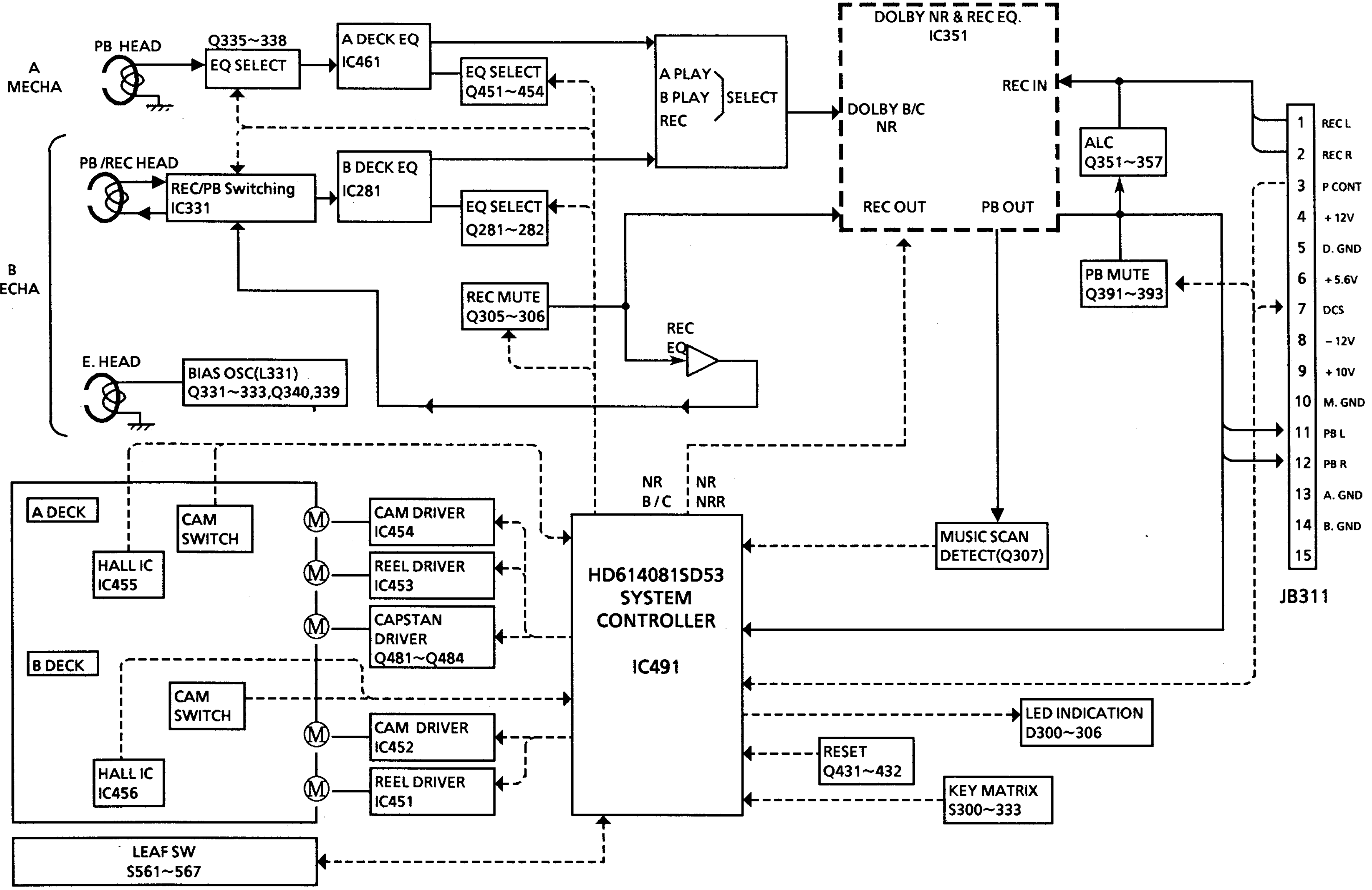
Grease part numbers

G-334: EBS0006-009B

G-474C: EBS0006-019B

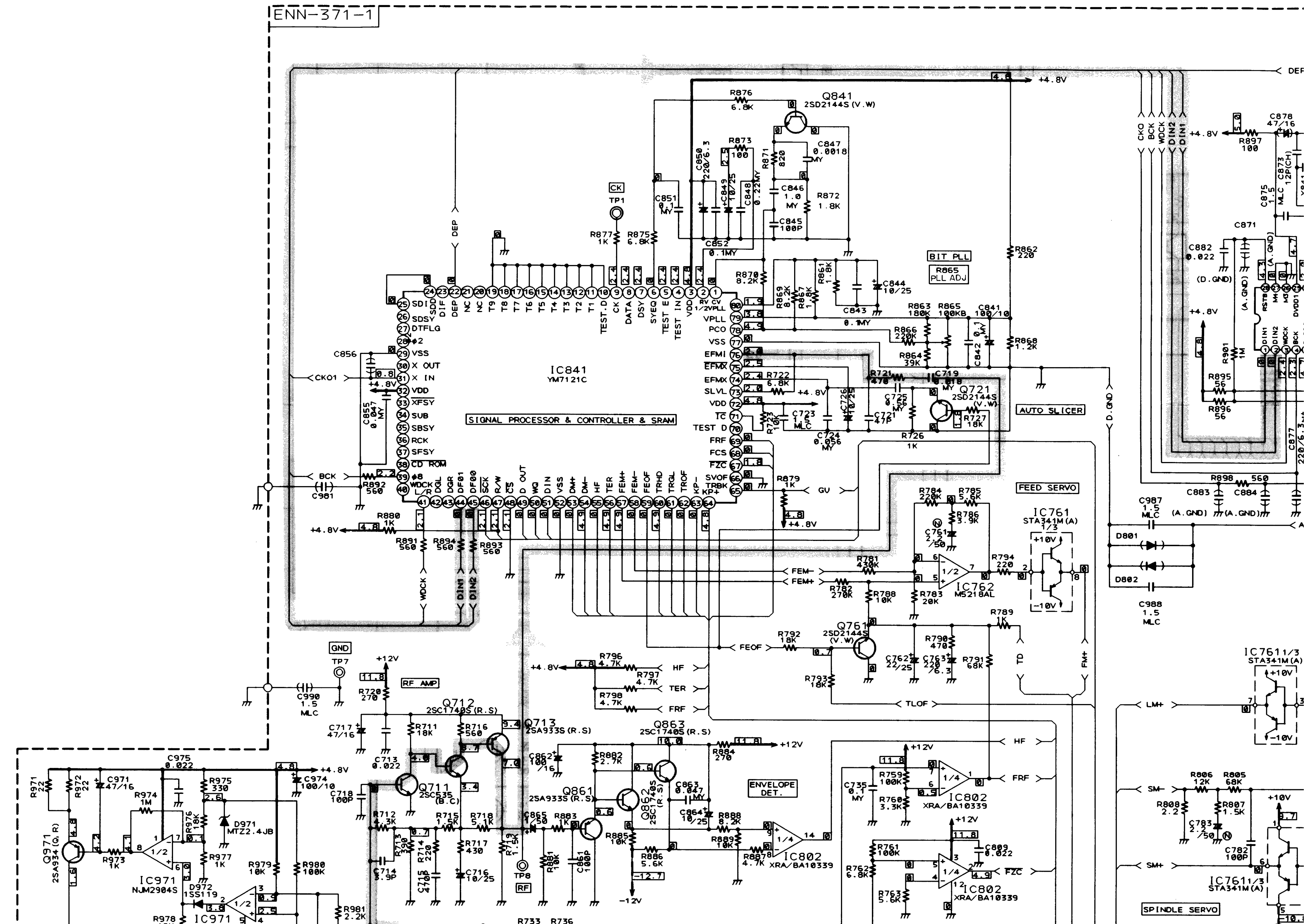
Block Diagrams


ENN-371-1
ENN-371-2
APC
IC971
Q971
MD
FOCUS SERVO
IC801
IC781
Q733
Q734
FD
FCS
F+
B+D
A+C
IC802
FZC
FRF
TER
TR.GAIN ADJ
TR.OFFSET ADJ
IC803
Q801
Q802
TD
T+
KP +
KP −
Q803 TRHD
Q804 TROF
Q805 TRGL
Laser Pick up Optima-6
A B F C D K E MD LD VR G F+ T+ T- F-
P801
RF AMP
Q711
Q712
Q713
RF
ENVELOPE DETECTER
Q861
Q862
Q863
HF
EFMI
SPINDLE SERVO
DM +
DM −
SM +
SM −
LOADING SERVO
IC762
IC761
CLOSE
OPEN
LM +
FEED SERVO
FEM +
FEM −
FM +
TLOF
Q761
FEOF
Feed Motor
Spindle Motor
PU REST SW
OPEN/CLOSE SW
LOADING SW
P802
P803
IC841 YM7121C
SIGNAL PROCESSOR & CONTROLLER & SRAM
L/R
φ8
df00
df01
x in
DEP
CV. RV. SYEQ
1/2VPLL. VPLL
PCO
BIT PLL
IC873 MN35501
WDCK
BCK
DIN2
DIN1
CKO1
L
R
DAC
LPF IC871
DEP Q871 Q872
Q873
J701
TO RX-MXS6BK
+10V
-10V
DCS
Q721 AUTO SLICER
FEOF
EFMX
F3
-V DIS
F4
+5V Ⓑ
Q701 Q702
+4.8V
Q703
COMPULINK
Q704
+5V Ⓐ (TO IC951)
+12V
-12V
P.OFF
P.ON
J702
COMPULINK Q951 Q952
RESET IC952 Q953
IC951 HD404019RC11S
F3
-VDIS
F4
P901
P991
KEY MATRIX S981~S990
FL991 EUL0001-151


A MECHA
PB HEAD
Q335~338
EQ SELECT
A DECK EQ
IC461
EQ SELECT
Q451~454
A PLAY
B PLAY
REC
SELECT
DOLBY NR & REC EQ.
IC351
REC IN
DOLBY B/C
NR
REC OUT
PB OUT
B MECHA
PB /REC HEAD
REC/PB Switching
IC331
B DECK EQ
IC281
EQ SELECT
Q281~282
ALC
Q351~357
PB MUTE
Q391~393
REC MUTE
Q305~306
REC
EQ
E. HEAD
BIAS OSC(L331)
Q331~333,Q340,339
1 REC L
2 REC R
3 P CONT
4 +12V
5 D. GND
6 +5.6V
7 DCS
8 -12V
9 +10V
10 M. GND
11 PB L
12 PB R
13 A. GND
14 B. GND
15
JB311
A DECK
CAM
SWITCH
HALL IC
IC455
M
CAM DRIVER
IC454
REEL DRIVER
IC453
CAPSTAN
DRIVER
Q481~Q484
B DECK
CAM
SWITCH
HALL IC
IC456
CAM DRIVER
IC452
REEL DRIVER
IC451
NR
B/C
NR
NRR
HD614081SD53
SYSTEM
CONTROLLER
IC491
MUSIC SCAN
DETECT(Q307)
LED INDICATION
D300~306
RESET
Q431~432
KEY MATRIX
S300~333
LEAF SW
S561~567

Schematic Diagrams

(1) CD Section


ENN-371-1
IC841 YM7121C
SIGNAL PROCESSOR & CONTROLLER & SRAM
BIT PLL
R865 PLL ADJ
AUTO SLICER
FEED SERVO
IC761 STA341M(A)
IC762 M5218AL
RF AMP
Q712 2SC1740S(R.S)
Q713 2SA933S(R.S)
Q711 2SC535(B.C)
Q863 2SC1740S(R.S)
Q861 2SA933S(R.S)
ENVELOPE DET.
IC802 XRA/BA10339
IC971 NJM2904S
APC
PICK UP OPTIMA-6
P801
IC801 NJM072S
Q735 DTA144WS
Q731 2SD2144S(V.W)
Q736 2SA933S(R.S)
Q737 2SA933S(R.S)
IC781 M5218AL
Q733 2SC2060(Q.R)
Q734 2SB1357(E.F)
FOCUS SERVO
TRK OFF SET
TRK GAIN
IC803 M5218AL
Q801 2SD2037(E.F)
Q802 2SB1357(E.F)
Q803 2SD2144S(V.W)
Q804 2SD2144S(V.W)
Q805 2SD2144S(V.W)
TRACKING SERVO
FEED MOTOR
SPINDLE MOTOR
REST SW S001
P001
P802
EMW10190
LOADING MOTOR
P031
S031 OPEN/CLOSE SW
P803
EMW10255
SPINDLE SERVO
IC761/3 STA341M(A)
Q951 DTA114YS
Q952 DTC114YS
IC951
Q841 2SD2144S(V.W)
Q721 2SD2144S(V.W)
Q761 2SD2144S(V.W)
D801
D802
+4.8V
+12V
-12V
+10V
-10V

How to Use Schematic Diagrams

1.——— indicates the + B line.

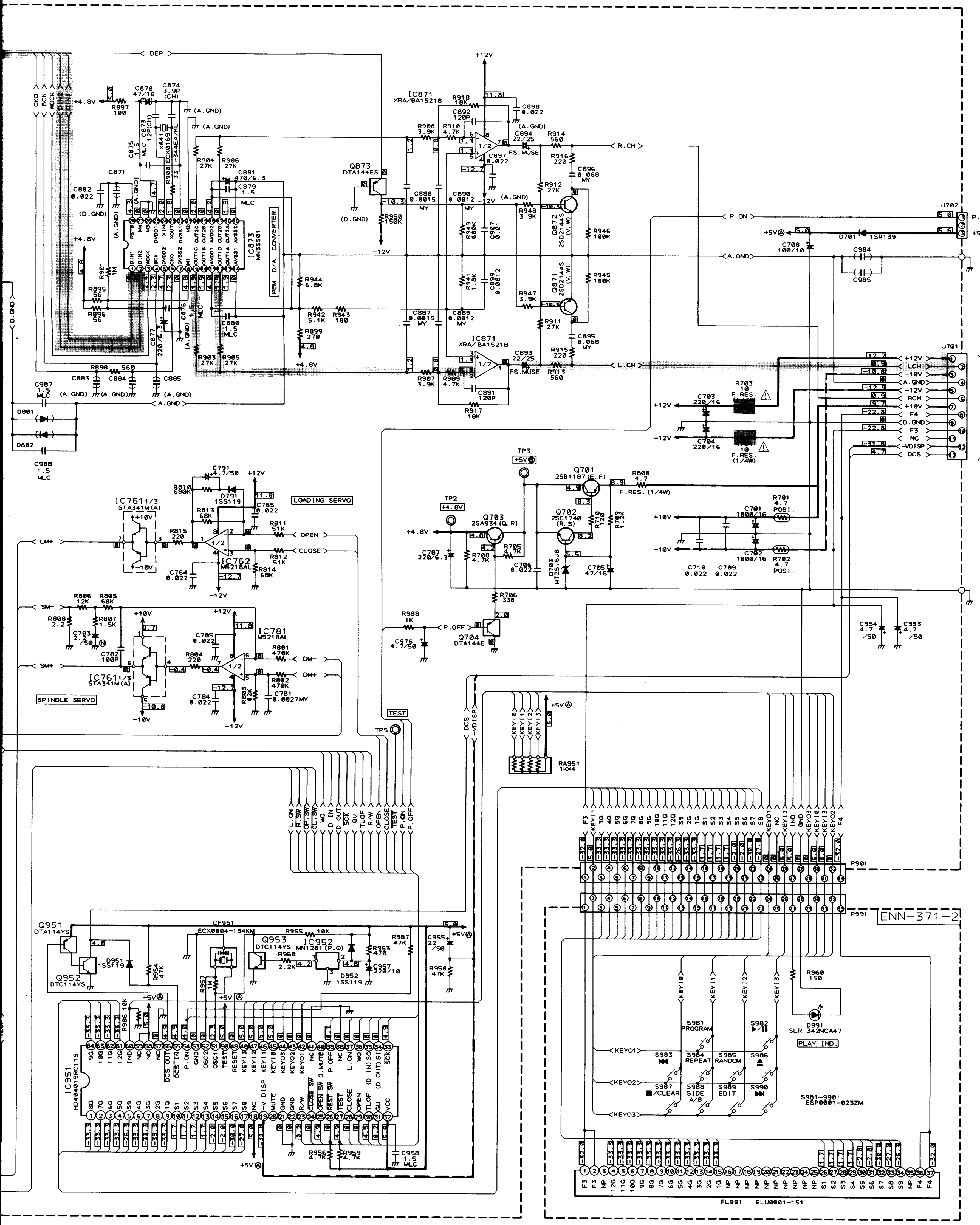
2.- - - - indicates the − B line.

3. ▨ indicates signal path.

4.- - - Graphics signal path.

5. Parts marked with △ and those in the shaded area ■ are parts for safety.
Be sure to use one with the specified part number.

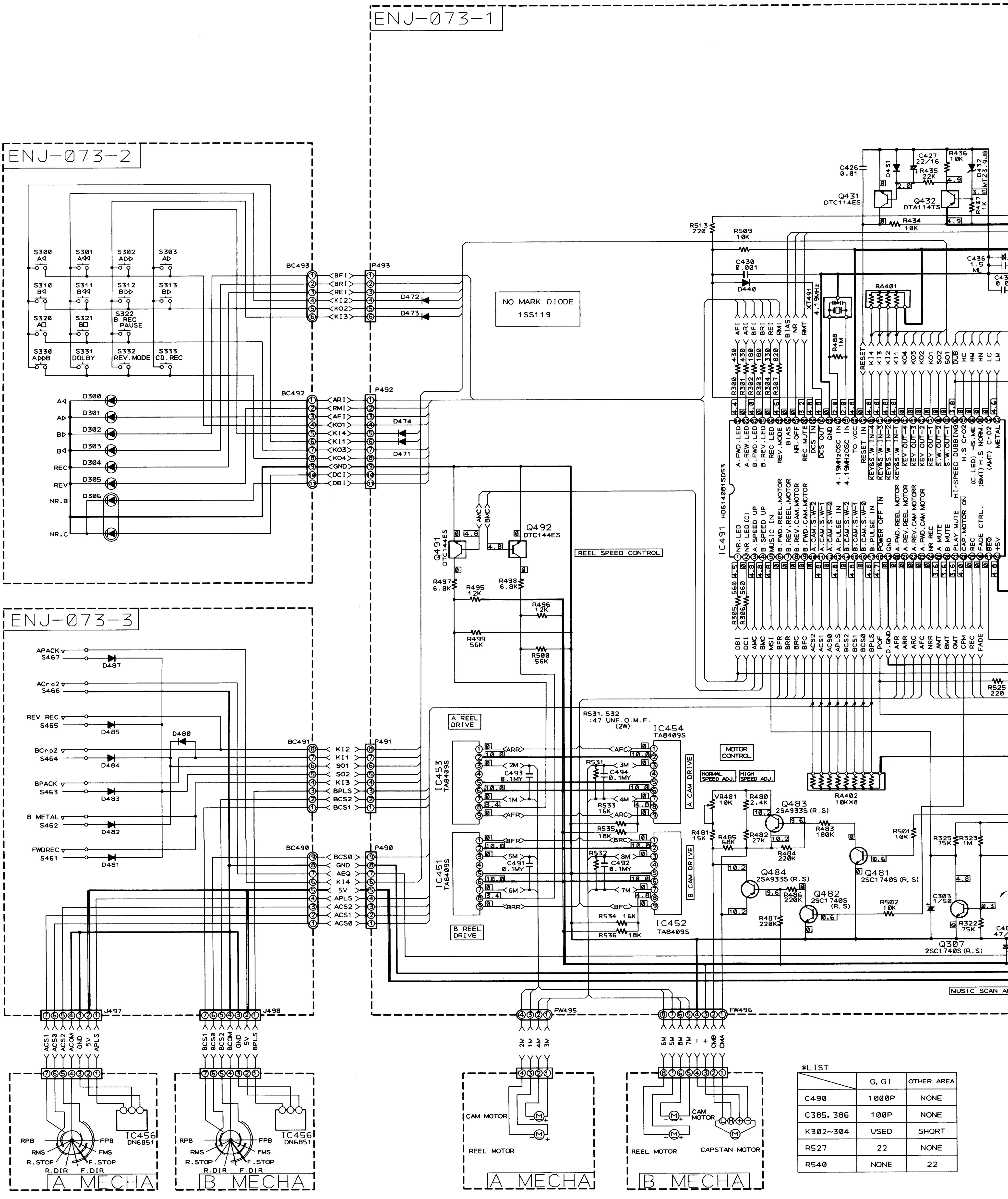
6. This is the standard circuit diagram. The circuits and circuit constants are subject to change for improvement without notice.


IC873 MN35501 PWM D/A CONVERTER
IC871 XRA/BA15218
Q873 DTA144ES
Q872 2SD2144S (V, W)
Q871 2SD2144S (V, W)
J702
P.ON
+5.6V
TO ENJ-073
D701 1SR139
J701
FROM RX-S6BK
+12V
LCH
-10V
A.GND
-12V
RCH
+10V
F4
D.GND
F3
NC
-VDISP
DCS
R703 10 F.RES.
R704 10 F.RES. (1/4W)
TP3 +5V
Q701 2SB1187(E, F)
Q702 2SC1740 (R, S)
Q703 2SA934(Q, R)
Q704 DTA144E
TP2 +4.8V
R800 4.7 F.RES. (1/4W)
R701 4.7 POSI.
R702 4.7 POSI.
IC7611/3 STA341M(A)
IC762 M5218AL
LOADING SERVO
OPEN
CLOSE
LM+
LM-
SM-
SM+
IC781 M5218AL
DM-
DM+
SPINDLE SERVO
TEST
TP5
RA951 1K×4
KEY10 KEY11 KEY12 KEY13
P901
P991
ENN-371-2
Q951 DTA114YS
Q952 DTC114YS
Q953 DTC114YS
CF951 ECX0004-194KM
IC952 MN1281(P, Q)
IC951 HD404019RC11S
D951 1SS119
D952 1SS119
R960 150
D991 SLR-342MCA47
PLAY IND.
S981 PROGRAM
S982 ▶/II
S983 ⏮
S984 REPEAT
S985 RANDOM
S986 ⏏
S987 ■/CLEAR
S988 SIDE A/B
S989 EDIT
S990 ⏭
KEYO1
KEYO2
KEYO3
S981~990: ESP0001-023ZM
FL991 ELU0001-151
DEP
R.CH
L.CH
P.ON
A.GND
P.OFF
FS.MUSE
CKO BCK WCK DIN2 DIN1

VERSION LIST

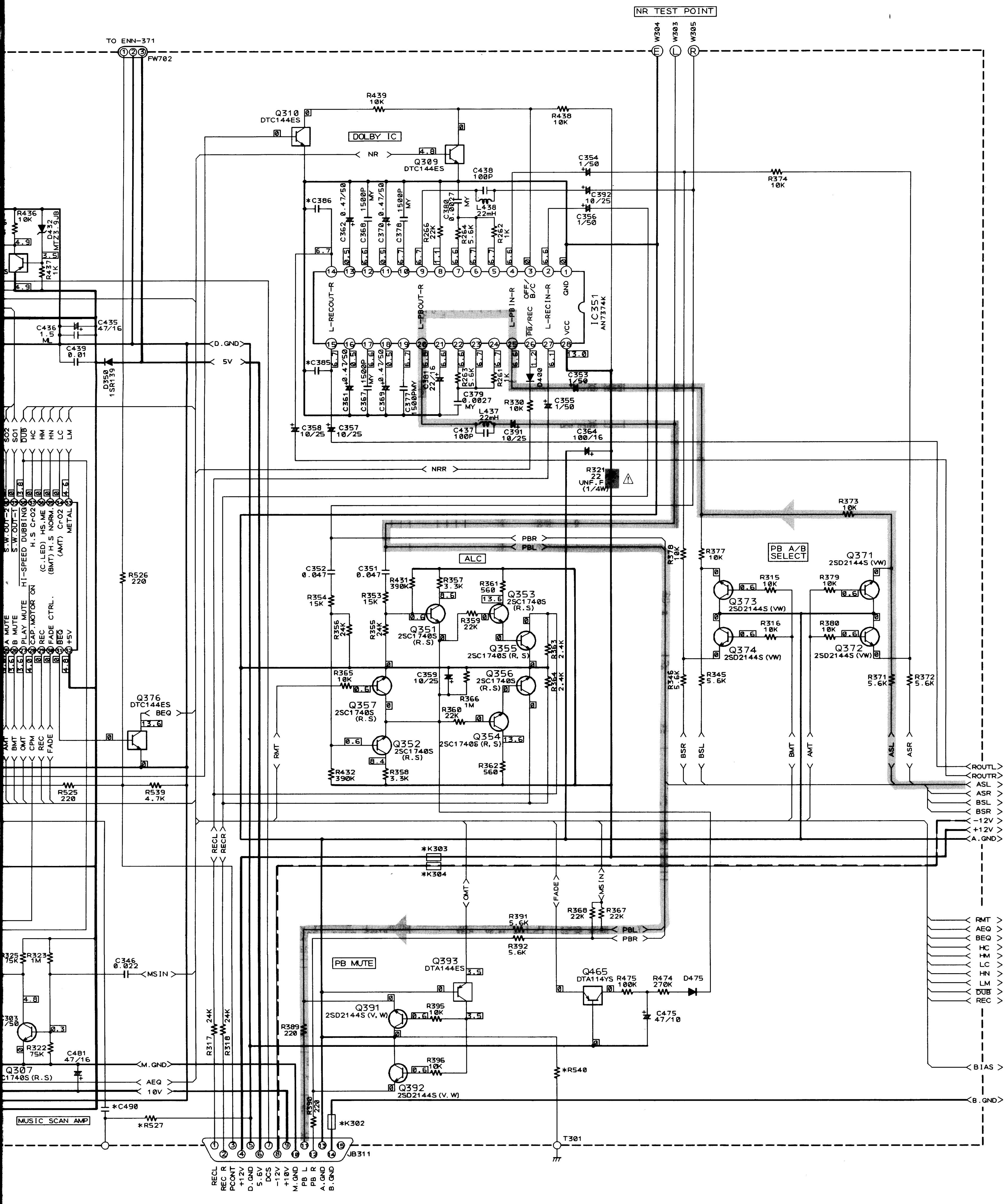
G — — A, EN, EF, BS
H — — G, GI

(2) Cassette Deck Control Section


ENJ-073-1
ENJ-073-2
ENJ-073-3
S300 A◁
S301 A◁◁
S302 A▷▷
S303 A▷
S310 B◁
S311 B◁◁
S312 B▷▷
S313 B▷
S320 A□
S321 B□
S322 B REC PAUSE
S330 A▷▷B
S331 DOLBY
S332 REV.MODE
S333 CD.REC
D300
D301
D302
D303
D304
D305
D306
NR.B
NR.C
BC493
P493
BC492
P492
BC491
P491
BC490
P490
D472
D473
D474
D471
NO MARK DIODE 1SS119
Q491 DTC144ES
Q492 DTC144ES
REEL SPEED CONTROL
R497 6.8K
R495 12K
R498 6.8K
R496 12K
R499 56K
R500 56K
APACK S467
ACro2 S466
REV REC S465
BCro2 S464
BPACK S463
B METAL S462
FWDREC S461
D487
D485
D480
D484
D483
D482
D481
A REEL DRIVE
B REEL DRIVE
IC453 TA8409S
IC451 TA8409S
IC454 TA8409S
IC452 TA8409S
A CAM DRIVE
B CAM DRIVE
R531, 532 :47 UNF.O.M.F. (2W)
C493 0.1MY
C491 0.1MY
C494 0.1MY
C492 0.1MY
R533 16K
R535 18K
R534 16K
R536 18K
MOTOR CONTROL
NORMAL SPEED ADJ.
HIGH SPEED ADJ.
VR481 10K
R480 2.4K
R481 15K
R485 68K
R482 27K
R484 220K
R483 180K
R486 220K
R487 220K
Q483 2SA933S (R.S)
Q484 2SA933S (R.S)
Q481 2SC1740S (R,S)
Q482 2SC1740S (R.S)
R501 10K
R502 10K
RA402 10K×8
IC491 HD614081SD53
Q431 DTC114ES
Q432 DTA114TS
C426 0.01
C427 22/16
R435 22K
R436 10K
R437 1K
R434 10K
D431
D432 MTZ3.9JB
R513 220
R509 10K
C430 0.001
D440
X491 4.19MHz
R488 1M
RA401
C436 1.5 ML
R300 430
R301 430
R302 180
R303 180
R304 330
R307 820
R305 560
R306 560
R525 220
R325 75K
R323 1M
C303 1/50
R322 75K
Q307 2SC1740S (R.S)
MUSIC SCAN A
J497
J498
FW495
FW496
ACS1 ACS0 ACS2 ACOM GND 5V APLS
BCS1 BCS0 BCS2 BCOM GND 5V BPLS
2M 1M 4M 3M
6M 5M 8M 7M - + CMB CMA
IC456 DN6851
RPB FPB RMS FMS R.STOP F.STOP R.DIR F.DIR
CAM MOTOR
REEL MOTOR
CAPSTAN MOTOR
A MECHA
B MECHA

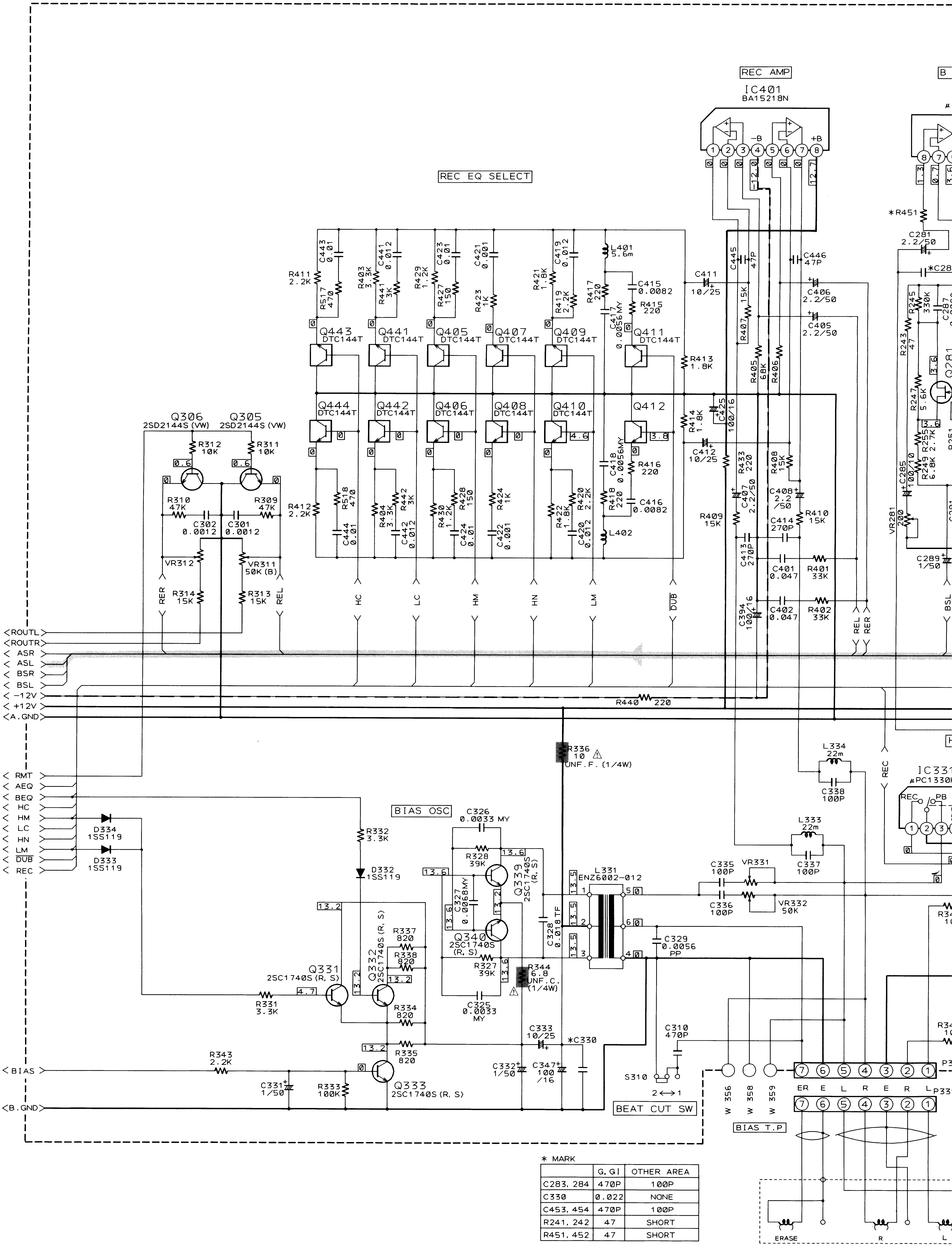
*LIST

	G, GI	OTHER AREA
C490	1000P	NONE
C385, 386	100P	NONE
K302~304	USED	SHORT
R527	22	NONE
R540	NONE	22


NR TEST POINT
W304
W303
W305
TO ENN-371
FW702
Q310
DTC144ES
R439 10K
R438 10K
DOLBY IC
NR
Q309
DTC144ES
C438 100P
C354 1/50
C392 10/25
C356 1/50
R374 10K
C386
C362 0.47/50
C368 1500P MY
C370 0.47/50
C378 1500P MY
R266 22K
C380 0.0027 MY
L438 22mH
R264 5.6K
R262 1K
L-RECOUT-R
L-PBOUT-R
L-PBIN-R
PB/REC
OFF/B/C
L-RECIN-R
GND
VCC
IC351
AN7374K
C385
C361 0.47/50
C367 1500P MY
C369 0.47/50
C377 1500PMY
C381 22/16
R263 5.6K
R261 1K
D400
C379 0.0027 MY
L437 22mH
R330 10K
C355 1/50
C353 1/50
C358 10/25
C357 10/25
C437 100P
C391 10/25
C364 100/16
NRR
R321 22 UNF.F (1/4W)
D.GND
5V
R436 10K
D432 MTZ3.9JB
R437 1K
C436 1.5 ML
C435 47/16
C439 0.01
D350 1SR139
R373 10K
PBR
PBL
ALC
C352 0.047
C351 0.047
R431 390K
R357 3.3K
R361 560
Q353 2SC1740S (R.S)
R354 15K
R353 15K
R356 24K
R355 24K
Q351 2SC1740S (R.S)
R359 22K
Q355 2SC1740S (R, S)
R363 2.4K
R364 2.4K
R365 10K
C359 10/25
Q356 2SC1740S (R.S)
Q357 2SC1740S (R.S)
R366 1M
R360 22K
Q354 2SC1740S (R, S)
Q352 2SC1740S (R.S)
R432 390K
R358 3.3K
R362 560
RMT
R378 10K
R377 10K
PB A/B SELECT
Q371 2SD2144S (VW)
R315 10K
R379 10K
Q373 2SD2144S (VW)
R316 10K
R380 10K
Q374 2SD2144S (VW)
Q372 2SD2144S (VW)
R346 5.6K
R345 5.6K
R371 5.6K
R372 5.6K
BSR
BSL
BMT
AMT
ASL
ASR
ROUTL
ROUTR
ASL
ASR
BSL
BSR
-12V
+12V
A.GND
SO2
SO1
DUB
HC
HM
HN
LC
LM
S.W.OUT-2
S.W.OUT-1
HI-SPEED DUBBING
H.S CrO2
(C.LED) HS.ME
(BMT) H.S NORM
(AMT) CrO2
METAL
A MUTE
B MUTE
PLAY MUTE
CAP.MOTOR ON
REC
FADE CTRL.
BEQ
+5V
AMT
BMT
OMT
CPM
REC
FADE
R526 220
Q376 DTC144ES
BEQ
R525 220
R539 4.7K
RECL
RECR
*K303
*K304
OMT
FADE
MSIN
R391 5.6K
R392 5.6K
R368 22K
R367 22K
PBL
PBR
PB MUTE
Q393 DTA144ES
Q391 2SD2144S (V, W)
R395 10K
R389 220
Q465 DTA114YS
R475 100K
R474 270K
D475
C475 47/10
R317 24K
R318 24K
R396 10K
Q392 2SD2144S (V, W)
*R540
R390 220
*K302
T301
RMT
AEQ
BEQ
HC
HM
LC
HN
LM
DUB
REC
BIAS
B.GND
R325 75K
R323 1M
C346 0.022
MSIN
Q303 1/50
R322 75K
C481 47/16
Q307 2SC1740S (R.S)
M.GND
AEQ
10V
*C490
*R527
MUSIC SCAN AMP
JB311
RECL
REC R
PCONT
+12V
D.GND
5.6V
DCS
-12V
+10V
M.GND
PB L
PB R
A.GND
B.GND
TO RX-MXS6

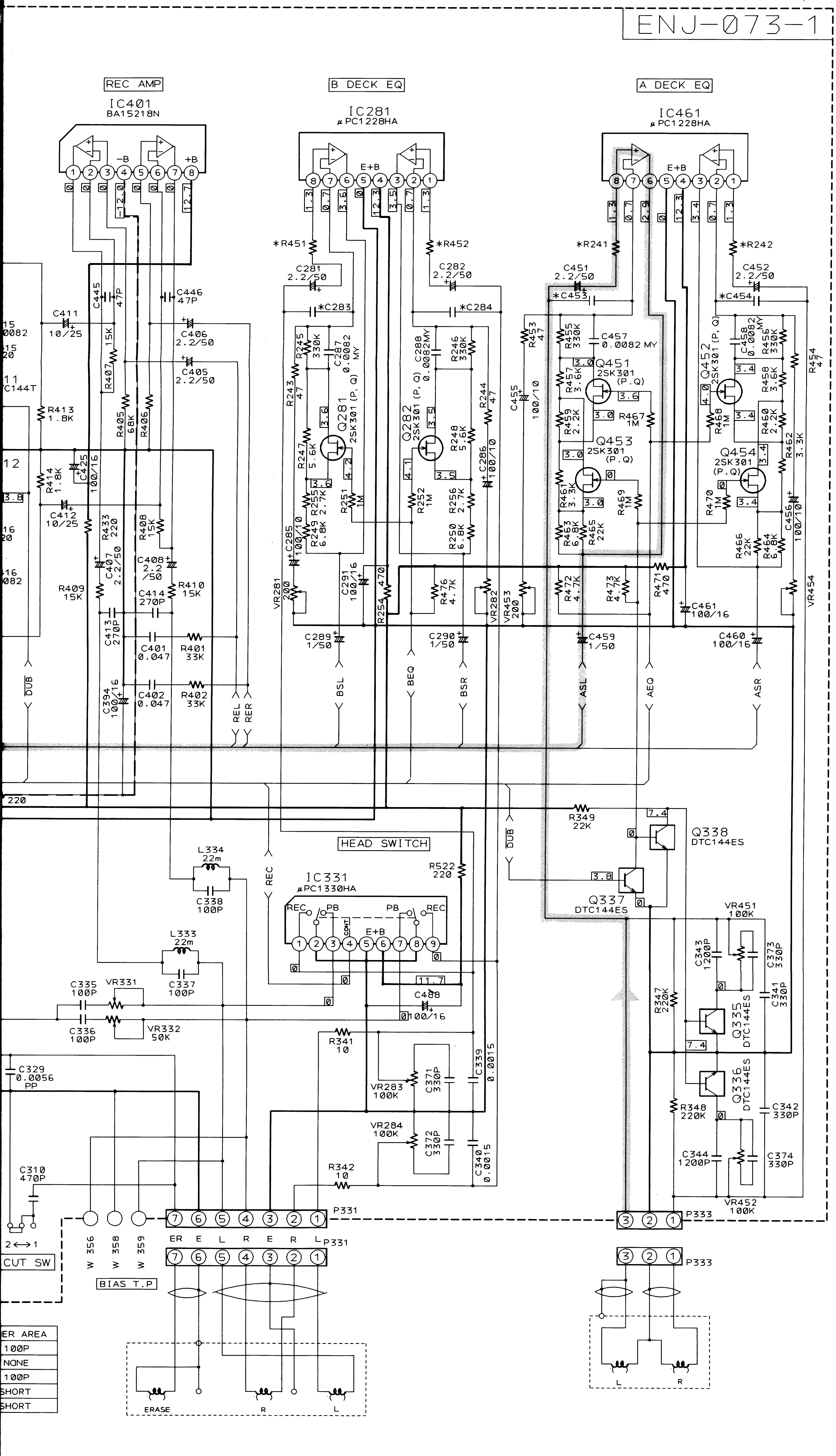
AREA
E
E
RT
E
2

(3) Cassette Deck Section


REC AMP
IC401
BA15218N
REC EQ SELECT
Q443 DTC144T
Q441 DTC144T
Q405 DTC144T
Q407 DTC144T
Q409 DTC144T
Q411 DTC144T
Q444 DTC144T
Q442 DTC144T
Q406 DTC144T
Q408 DTC144T
Q410 DTC144T
Q412
Q306 2SD2144S (VW)
Q305 2SD2144S (VW)
R312 10K
R311 10K
R310 47K
R309 47K
C302 0.0012
C301 0.0012
VR312
VR311 50K (B)
R314 15K
R313 15K
RER
REL
HC
LC
HM
HN
LM
DUB
L401 5.6m
L402
C411 10/25
C412 10/25
C445 47P
C446 47P
C406 2.2/50
C405 2.2/50
R413 1.8K
R414 1.8K
C425 100/16
R405 68K
R406
R407 15K
R408 15K
R433 220
R409 15K
R410 15K
C407 2.2/50
C408 2.2/50
C414 270P
C413 270P
C401 0.047
R401 33K
C402 0.047
R402 33K
C394 100/16
R440 220
<ROUTL>
<ROUTR>
< ASR >
< ASL >
< BSR >
< BSL >
< -12V >
< +12V >
<A.GND>
< RMT >
< AEQ >
< BEQ >
< HC >
< HM >
< LC >
< HN >
< LM >
< DUB >
< REC >
<BIAS>
<B.GND>
D334 1SS119
D333 1SS119
D332 1SS119
R332 3.3K
BIAS OSC
C326 0.0033 MY
R328 39K
Q339 2SC1740S (R, S)
Q340 2SC1740S (R, S)
C327 0.0068MY
R327 39K
C325 0.0033 MY
R336 10 UNF.F. (1/4W)
R344 6.8 UNF.C. (1/4W)
L331 ENZ6002-012
C328 0.018 TF
C329 0.0056 PP
Q331 2SC1740S (R, S)
Q332 2SC1740S (R, S)
Q333 2SC1740S (R, S)
R331 3.3K
R337 820
R338 820
R334 820
R335 820
R343 2.2K
R333 100K
C331 1/50
C332 1/50
C333 10/25
C347 100/16
*C330
C310 470P
S310
2⟷1
BEAT CUT SW
W356
W358
W359
BIAS T.P
L334 22m
C338 100P
L333 22m
C337 100P
C335 100P
C336 100P
VR331
VR332 50K
IC331
μPC1330
ER E L R E R L
P331
ERASE
R
L
*R451
C281 2.2/50
R245 330K
R243 47
R247 5.6K
R249 6.8K
R255 2.7K
C285 100/10
VR281 200
C289 1/50
BSL

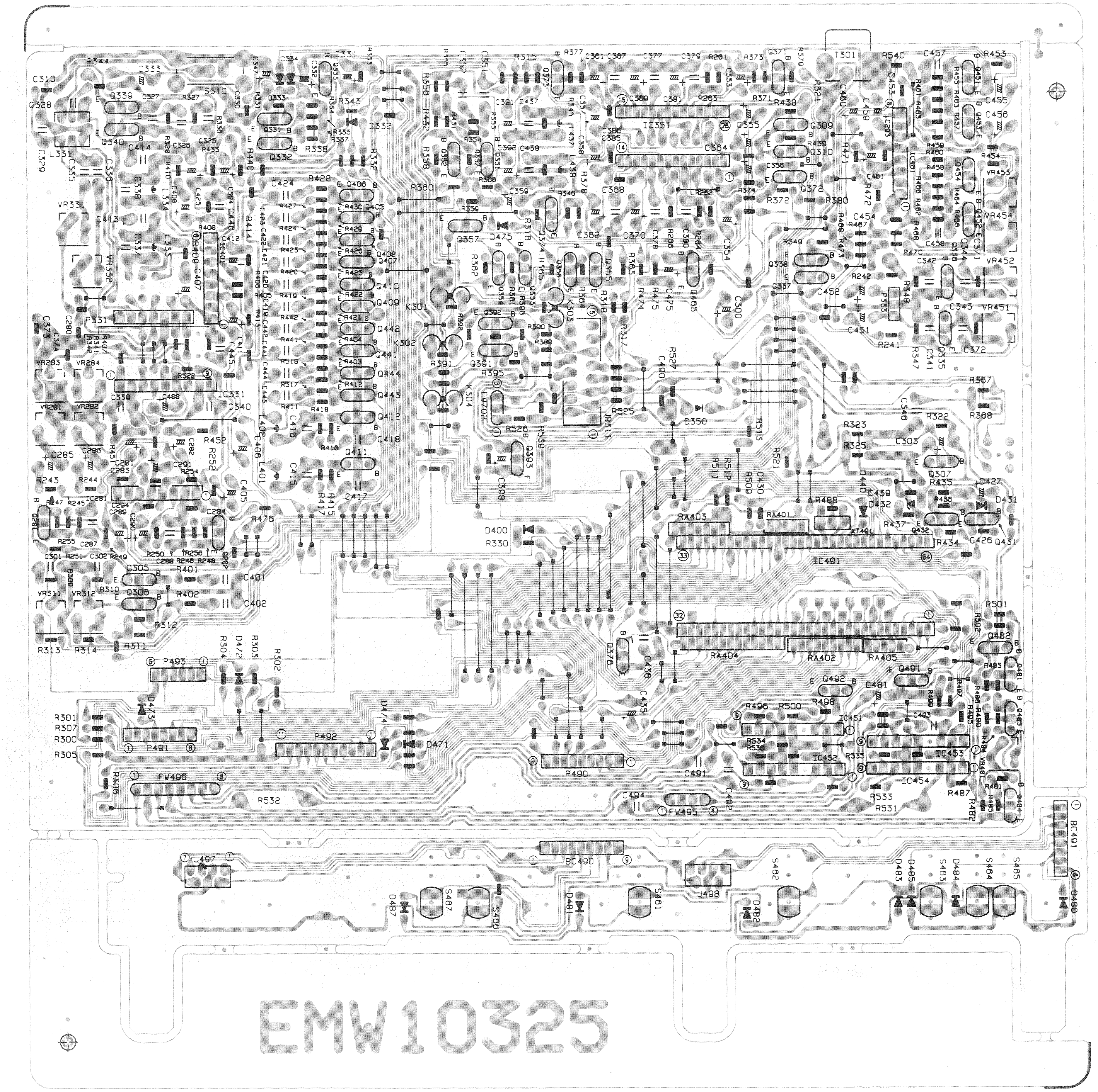
* MARK

	G, GI	OTHER AREA
C283, 284	470P	100P
C330	0.022	NONE
C453, 454	470P	100P
R241, 242	47	SHORT
R451, 452	47	SHORT


ENJ-073-1
REC AMP
IC401
BA15218N
-B
+B
B DECK EQ
IC281
μPC1228HA
E+B
A DECK EQ
IC461
μPC1228HA
E+B
*R451
*R452
*R241
*R242
C281
2.2/50
C282
2.2/50
C451
2.2/50
C452
2.2/50
*C283
*C284
*C453
*C454
C445
47P
C446
47P
C411
10/25
C406
2.2/50
C405
2.2/50
R407
15K
R413
1.8K
R405
68K
R406
R414
1.8K
C425
100/16
C412
10/25
R433
220
R408
15K
C407
2.2/50
C408
2.2/50
R409
15K
R410
15K
C414
270P
C413
270P
C401
0.047
R401
33K
C402
0.047
R402
33K
C394
100/16
DUB
REL
RER
R245
330K
C287
0.0082 MY
R243
47
Q281
2SK301 (P, Q)
R247
5.6K
R255
2.7K
R249
6.8K
R251
1M
C285
100/10
VR281
200
C291
100/16
R254
470
C289
1/50
BSL
Q282
2SK301 (P, Q)
C288
0.0082MY
R246
330K
R244
47
R248
5.6K
C286
100/10
R252
1M
R256
2.7K
R250
6.8K
R476
4.7K
VR282
C290
1/50
BEQ
BSR
R453
47
C455
100/10
VR453
200
R455
330K
C457
0.0082 MY
Q451
2SK301
(P.Q)
R457
3.6K
R459
2.2K
R467
1M
Q453
2SK301
(P.Q)
R461
3.3K
R469
1M
R463
6.8K
R465
22K
R472
4.7K
R473
4.7K
R471
470
C461
100/16
C459
1/50
ASL
AEQ
Q452
2SK301 (P, Q)
C458
0.0082 MY
R456
330K
R454
47
R458
3.6K
R468
1M
R460
2.2K
R462
3.3K
Q454
2SK301
(P, Q)
R470
1M
R466
22K
R464
6.8K
C456
100/10
VR454
C460
100/16
ASR
220
R349
22K
Q338
DTC144ES
Q337
DTC144ES
REC
DUB
HEAD SWITCH
R522
220
IC331
μPC1330HA
REC
PB
PB
REC
CONT
E+B
L334
22m
C338
100P
L333
22m
C337
100P
C335
100P
VR331
C336
100P
VR332
50K
C488
100/16
R341
10
VR283
100K
C371
330P
C339
0.0015
VR284
100K
C372
330P
C340
0.0015
R342
10
C329
0.0056
PP
C310
470P
VR451
100K
C343
1200P
C373
330P
C341
330P
R347
220K
Q335
DTC144ES
Q336
DTC144ES
R348
220K
C342
330P
C344
1200P
C374
330P
VR452
100K
P331
P333
ER E L R E R L
W 356
W 358
W 359
BIAS T.P
2⟷1
CUT SW
ER AREA
100P
NONE
100P
SHORT
SHORT
ERASE
R
L
L
R

Printed Circuit Boards

(1) Deck PCB (ENJ-073)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IC452
IC453
IC454
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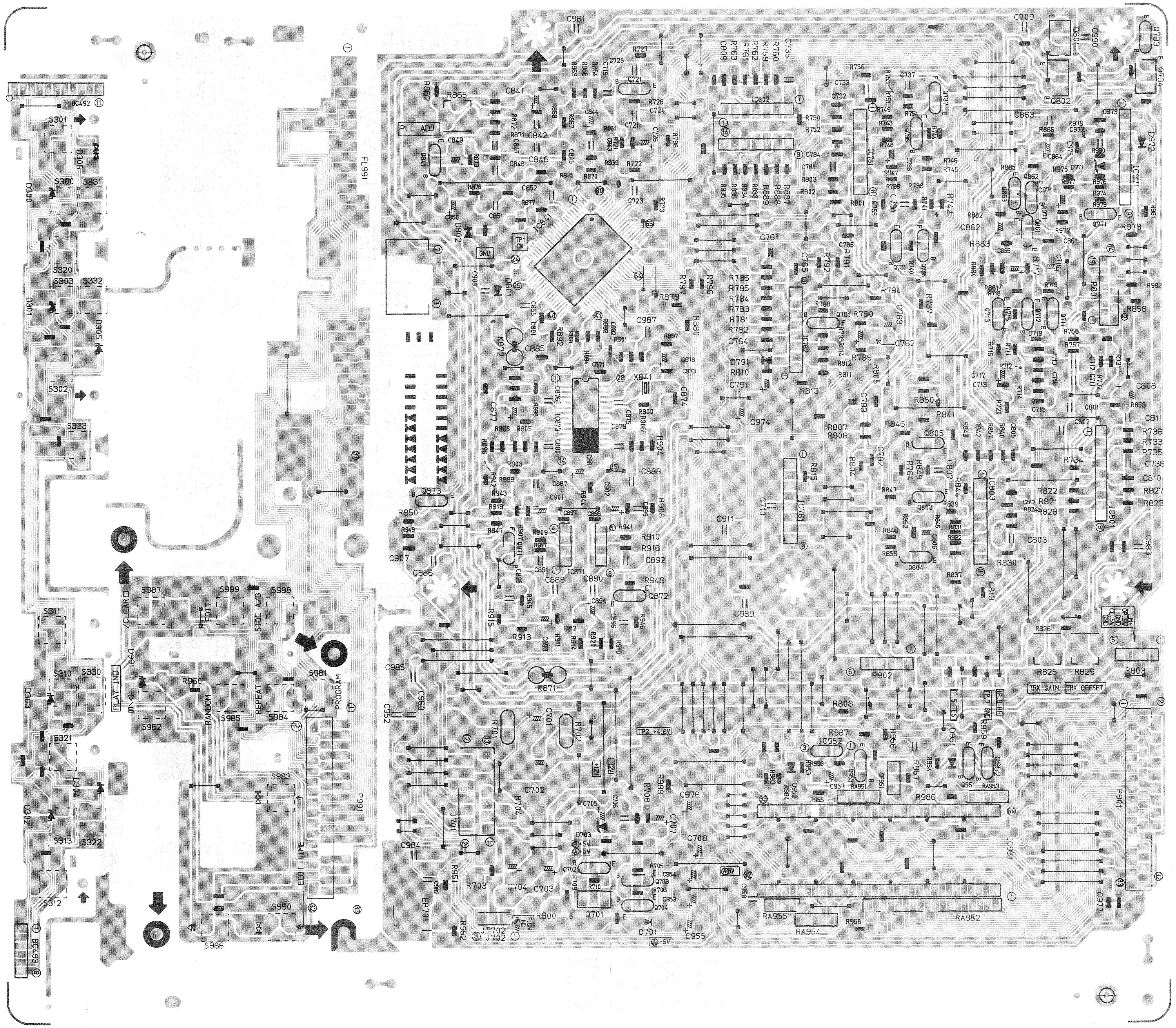
P493
P490
FW495
FW496
BC491
BC490
J497
J498
T301

(2) CD PCB (ENN-371)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Q872
K871
K872
IC761
IC802
IC781
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IC803
IC801
IC971
IC952
IC951
P801
P802
P803
P901
P991
FL991
CN492
CN493
TP2 +4.6V
TRK GAIN
TRK OFFSET
S300
S301
S302
S303
S310
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S313
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S322
S330
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CLEAR
EDIT
SIDE A/B
PLAY IND.
RANDOM
REPEAT
PROGRAM
EDIT TIME
D991
Q701
Q702
Q703
Q704
Q951
Q952
Q953
RA951
RA952
RA953
RA954
RA955
J701
J702
EP701
JT702

PARTS LIST

Note : All printed circuit boards and its assemblies are not available as service parts.

Contents

General Exploded View and Parts List 2-2
Cassette Mechanism Ass'y and Parts List 2-5
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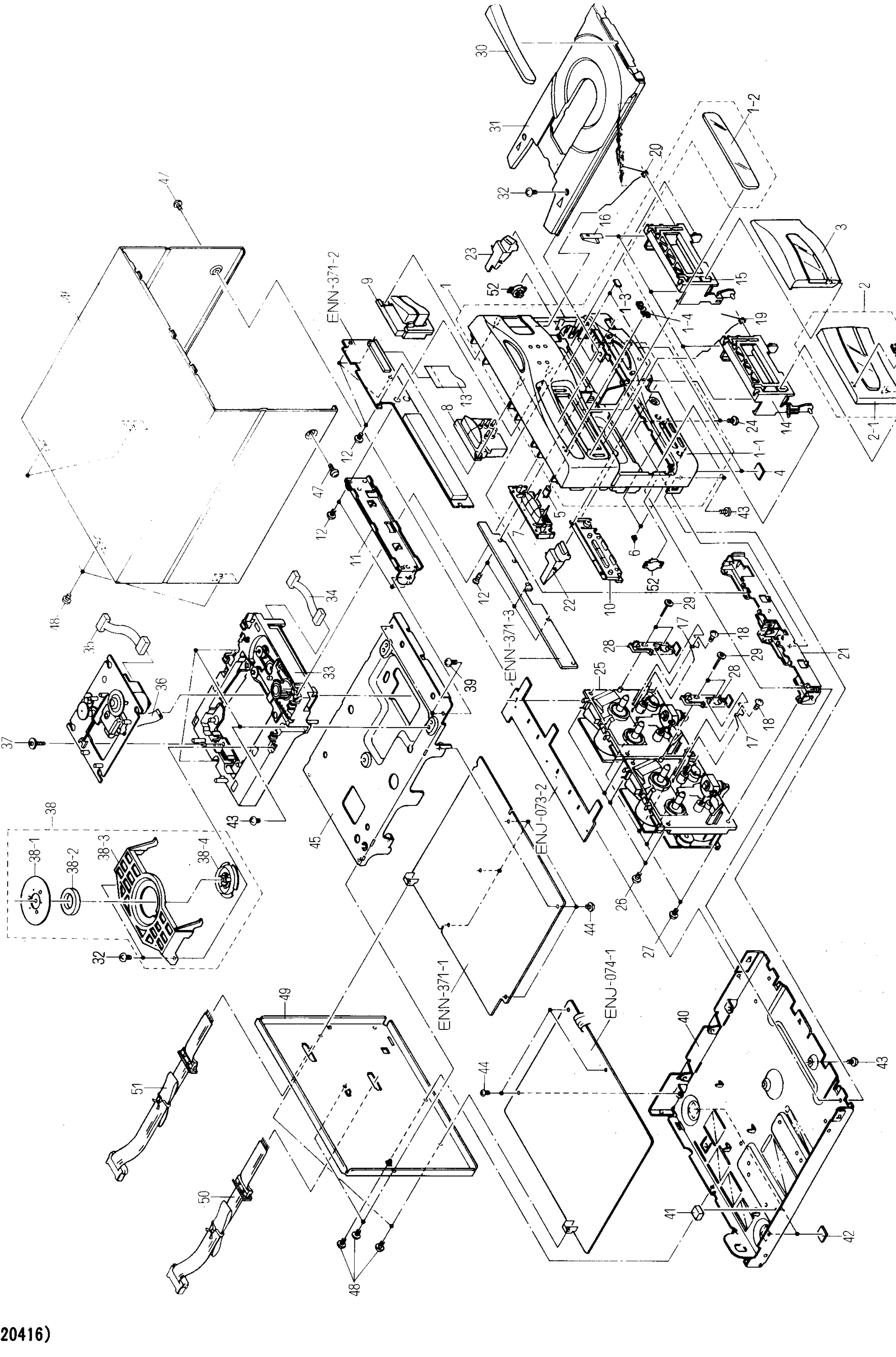
Printed Circuit Board Ass'y and Parts List 2-10
  ■ENN-371 ☐ CD PC Board Ass'y 2-10
  ■ENJ-073 ☐ Deck PC Board Ass'y 2-14

General Exploded View and Parts List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2-1
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ENN-371-3
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ENJ-073-2
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38-1
38-2
38-3
38-4
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ENN-371-1
ENJ-074-1
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48

■ Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Area
	1	EFP-XTMXS6BKE(S	FRONT PANEL ASSY	1		
	1-1	E102686-002SM	FRONT PANEL	1		
	1-2	E69777-003	REFLECTION PLATE	2		
	1-3	E308430-001SM	WINDOW SCREEN	1		
	1-4	E406971-221SM	JVC MARK	1		
	2	E207803-004SA	CASSETTE LID ASSY	1		
	2-1	E207803-004SM	CASSETTE LID	1		
	2-2	E406971-221SM	JVC MARK	1		
	3	E207806-002SM	CASSETTE LID ASSY	1		
	4	E75896-001	SPACER	2	FOOT (F)	
	5	E407446-001SS	INDICATOR LENS	1	REC AUSE	
	6	E407445-002SS	INDICATOR LENS	2	DOLBY	
	7	E207545-003SS	PUSH BUTTON ASSY	1	DECK B	
	8	E207796-001SS	PUSH BUTTON ASSY	1	CD PLAY	
	9	E207859-001SM	PUSH BUTTON ASSY	1	OPEN/CLOSE,SEARCH	
	10	E308151-002SS	PUSH BUTTON ASSY	1	DECK A	
	11	E308437-003SM	STAY BRACKET	1		
	12	SDSF2608Z	SCREW	10		
	13	EWR633K-14PPJ3	FLAT WIRE	1		
	14	E207560-002SS	HOLDER	1	DECK A	
	15	E207561-002SS	HOLDER	1	DECK B	
	16	E406713-221SS	CASSETE SPRING	4		
	17	E407304-001SM	SPRING	2		
	18	GBSF3006Z	SCREW	2		
	19	E407447-004SM	EJECT SPRING	2	DECK A	
	20	E407447-005SM	EJECT SPRING	2	DECK B	
	21	E207567-001SS	HOLDER BRACKET	1		
	22	E308160-001SS	EJECT BUTTON	1	DECK A	
	23	E308161-001SS	EJECT BUTTON	1	DECK B	
	24	SBST3006M	SCREW	4		
	25	————————	CASSETE MACHANISM ASSY	1	See page 2-7	
	26	SBSF3010C	SCREW	4		
	27	SBST3008C	SCREW	4		
	28	E308162-002SS	EJECT LEVER	2		
	29	E407214-001	SPECIAL SCREW	4		
	30	E207534-002SS	CD FITTING	1		
	31	E102358-332SS	CD TRAY	1		
	32	SBSF3008M	SCREW	3		
	33	————————	CD MECHANISM ASSY	1	See page 2-5	
	34	EWS265-B410	SOCKET WIRE	1	5PIN	
	35	EWS266-B412	SOCKET WIRE	1	6PIN	
	36	EWR115M-11BB	FLAT WIRE	1	15PIN	
	37	E406293-002	SPECIAL SCREW	1		
	38	E306837-005	CLAMPER BASE ASSY	1		
	38-1	E306836-223SS	YOKE PLATE	1		
	38-2	E74897-002	MAGNET	1		
	38-3	E26756-222SS	CLAMPER BASE	1		
	38-4	E306835-221SS	CD CLAMPER	1		
	39	SBST3006Z	SCREW	2		
	40	E102616-223	CHASSIS BASE	1		

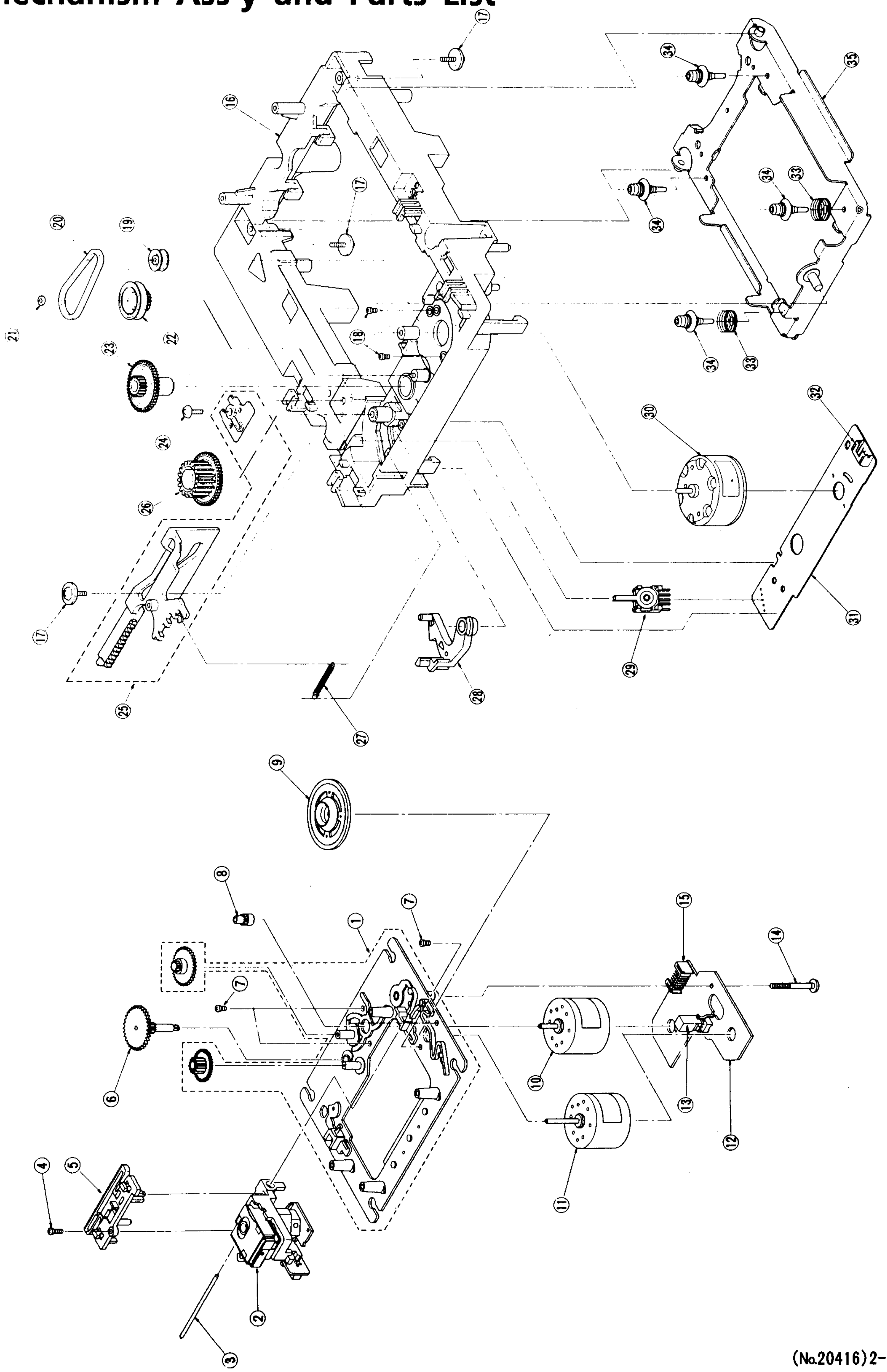
⚠	Item	Part Number	Part Name	Q'ty	Description	Area
	41	EXO008008R40S	SPACER	1		
	42	E75896-006	FELT SPACER	2		
	43	SBST3008Z	SCREW	6		
	44	SBSG3008N	SCREW	8		
	45	E102688-004SM	CHASSIS BASE	1		
	46	E207787-004SM	METAL COVER	1		
	47	SDSG3006M	SCREW	2		
	48	E73273-003	SPECIAL SCREW	9		
	49	E207809-007SM	REAR PANEL	1		A
		E207809-008SM	REAR PANEL	1		Except A
	-	E70891-001	RATING LABEL	1		
	50	EWP907-013	PLUG CORD ASSY	1		
	51	EWP907-015	FLAT WIRE ASSY	1		
	52	E304434-002	DAMPER ASSY	2		
	-	E61029-005	NUMBER LABEL	1		
	-	E406507-001	CAUTION LABEL	1		

⚠ : Safety Parts

The Marks for Designated Areas

A ..... Australia
BS .... the U.K.
EF ..... Continental Europe
EN .... Scandinavia
G ..... Germany
GI ..... Italy
No mark indicates all area

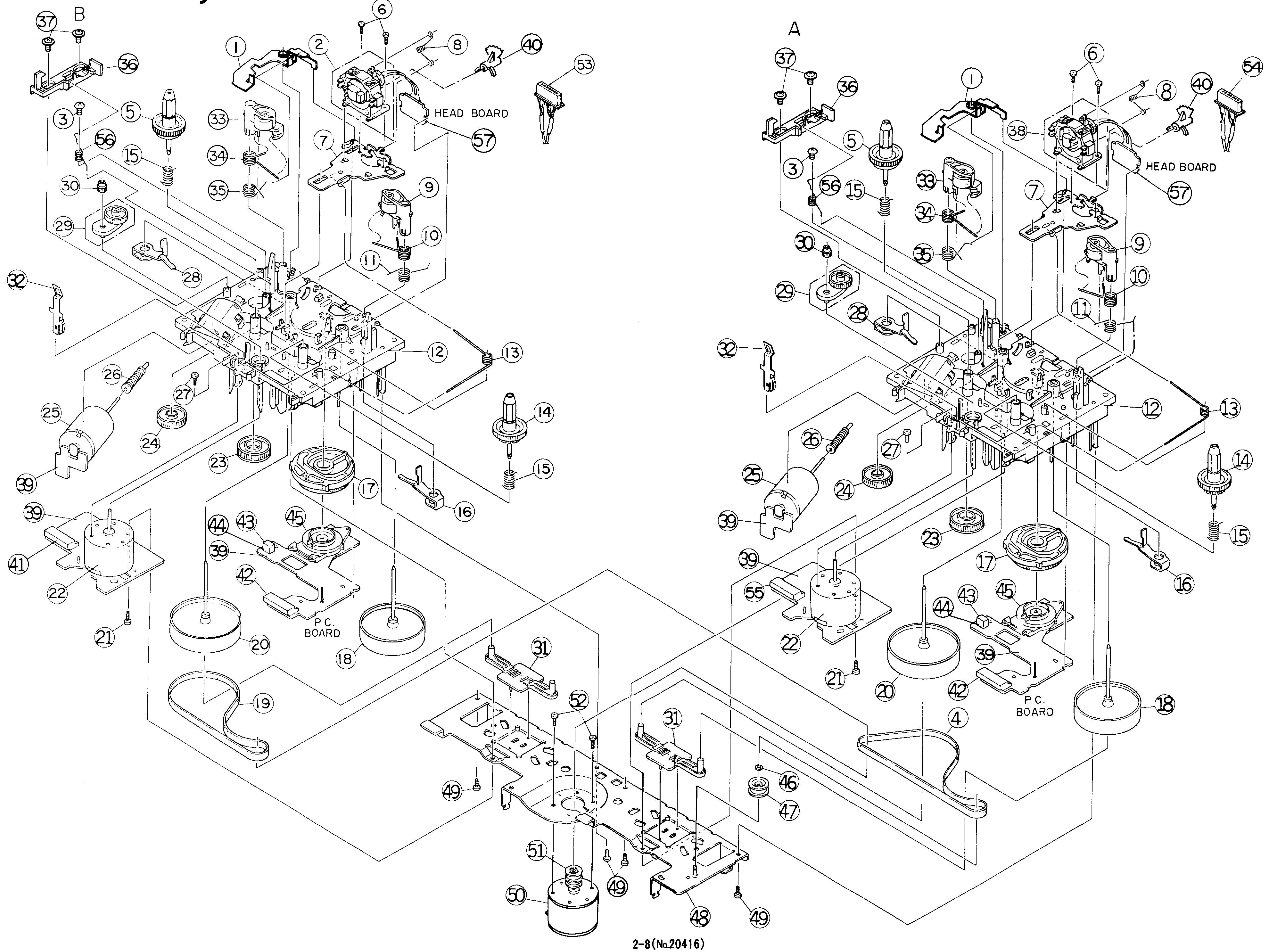
CD Mechanism Ass'y and Parts List



■ Parts List (CD Mechanism Ass'y)

Item	Part Number	Part Name	Q'ty	Description	Area
1	EPB-002A	MECHANISM BASE ASSY	1		
2	OPTIMA-6S	PICK UP ASS'Y	1		
3	E406777-001	SHAFT	1		
4	SDSF2006Z	SCREW	1		
5	E307746-001	CD RACK	1		
6	EPB-003A	MECHANISM BASE ASSY	1		
7	SDSP2003N	SCREW	4		
8	E406750-001	PINION GEAR	1		
9	EPB-001C	TURNTABLE	1		
10	E406784-001	DC MOTOR	1		
11	E406783-001	DC MOTOR	1		
12	EMW10190-001(S)	CIRCUIT BOARD	1		
13	ESB1100-005	LEAF SWITCH	1		
14	E75832-001	SPECIAL SCREW	1		
15	EMV5109-006B	PLUG ASSY	1	6PIN	
16	E102357-221	LOADING BASE	1		
17	E65923-003	SCREW	3		
18	SPSK2640Z	SCREW	2		
19	E75984-001	MOTOR PULLEY	1		
20	E75950-002	BELT	1		
21	E72024-001	SPEED NUT	1		
22	E75985-001	GEAR	1		
23	E75986-002	GEAR	1		
24	SBSF3008Z	SCREW	1		
25	E307252-221	CAM - PLATE	1		
26	E75987-001	REEL GEAR	1		
27	E75989-001	SPRING	1		
28	E307162-221	LEVER	1		
29	ESS1200-002	SLIDE SWITCH	1		
30	RF-500TB-12560	MOTOR	1		
31	EMW10255-002(S)	CIRCUIT BOARD	1		
32	EMV5109-005B	PLUG ASSY	1	5PIN	
33	E406871-001	SPRING	2		
34	E406294-002	INSULATOR	4		
35	E307179-221	ELEVATOR BASE ASSY	1		

Cassette Mechanism Ass'y and Parts List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HEAD BOARD
P.C. BOARD

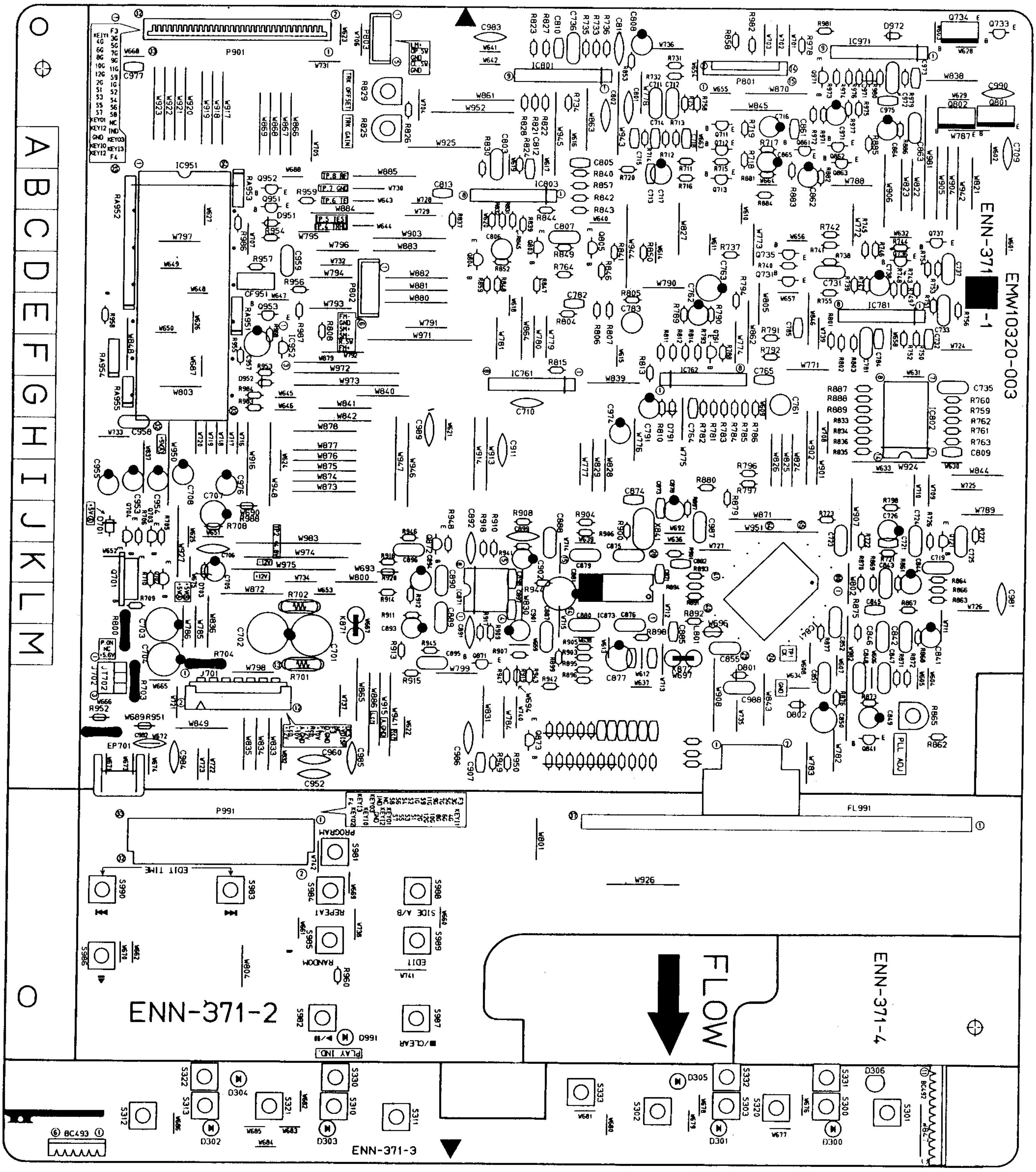
■Parts List (Cassete Mechanism Ass'y)

Item	Part Number	Part Name	Q'ty	Description	Areas
1	VKL7246-001	EJECT BRACKET	2		
2	VKS3551-00B	HEAD MOUNT ASSY	1	(B)	
3	GBSF3008Z	SCREW	2		
4	VKB3001-054	CAPSTAN BELT	1	(A)	
5	VKS5321-00D	TAKE-UP REEL DISK	2	RIGHT	
6	SDST2004Z	SCREW	4	FOR HEAD MOUNT ASSY	
7	VKL6942-00E	HEAD BASE	2		
8	VKW4994-001	HEAD SPRING	2		
9	VKP4221-00C	PINCH ROLLER	2	LEFT	
10	VKW4982-001	PINCH ROLLER SPRING	2	LEFT	
11	VKW4933-005	TORSION SPRING	2	LEFT	
12	VKS1125-00A	CHASSIS BASE	2		
13	VKW4930-002	SPRING	2		
14	VKS3480-005	SUPPLY REEL DISK	2	LEFT	
15	VKW4928-003	SPRING	4	FOR REEL ASSY	
16	VKL6940-002	PINCH ROLLER LEVER	2	LEFT	
17	VKS2209-005	CONTROL CAM	2		
18	VKF3186-00C	FLYWHEEL	2	LEFT	
19	VKB3001-055	CAPSTAN BELT	1	(B)	
20	VKF3184-00C	FLYWHEEL	2	RIGHT	
21	SDSF2608Z	SCREW	2	PCB - FM BRACKET	
22	MMN-6F4RA38	DC MOTOR	2	REEL	
23	VKS5331-002	ACTUATER GEAR	2		
24	VKS5330-004	DRIVE GEAR	2		
25	MXN-13FB12F	DC MOTOR	2	CAM	
26	VKS5329-002	PINION GEAR	2		
27	SDSP2605Z	SCREW	2	CHASSIS BASE - MOTOR	
28	VKL6939-002	PINCH ROLLER LEVER	2	RIGHT	
29	VKS5325-00F	F.F/REW.ARM	2		
30	VKS5328-002	REEL GEAR	2		
31	VKS5327-003	MECHA PLATE	2		
32	VKY4628-002	SPRING	2		
33	VKP4219-00C	PINCH ROLLER	2	RIGHT	
34	VKW4981-001	TORSION SPRING	2	RIGHT	
35	VKW4932-005	TORSION SPRING	2	RIGHT	
36	E308162-001	EJECT LEVER	2		
37	E407214-001	SPECIAL SCREW	4		
38	VKS3550-00B	HEAD MOUNT	1	(A)	
39	VMW2362-001	PRINTED BOARD	2		
40	VKS3485-002	TIMING GEAR	2		
41	VMC0249-R08N	CONNECT TERMINAL	1	(B)	
42	VMC0234-R07	CONNECT TERMINAL	2		
43	DN6851A	I.C(DIGI-OTHER)	2		
44	VKS3487-002	IC HOLDER	2		
45	VKS3587-00A	CAM SWITCH	2		
46	WDL163525-4	WASHER	1		
47	VKR4631-003	IDLER PULLEY	1		
48	VKM3618-00A	FLYWHEEL BRACKET	1		
49	SDSF2605Z	SCREW	4	CHASSIS BASE - FM BRACKET	
50	MMI-6H2LWSK	DC MOTOR	1	CAPSTAN	
51	VKR4632-002	MOTOR PULLEY	1		
52	SPSP2603Z	SCREW	2		
53	VDM007P-024I	CONNECTOR WIRE ASSY	1	(B)	
54	VDM003P-040I	CONNECTOR WIRE ASSY	1	(A)	
55	VMC0249-R04N	CONNECT TERMINAL	1	(A)	
56	E407304-001	SPRING	2		
57	EMW4816-001	CIRCUIT BOARD	2		

Printed Circuit Board Ass'y and Parts List

■ENN-371☐CD PC Board Ass'y

Note : ENN-371☐ varies according to the areas employed. See note (1) when placing an order.



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ENN-371-1
EMW10320-003
ENN-371-2
ENN-371-3
ENN-371-4
FLOW
PROGRAM
EDIT TIME
REPEAT
SIDE A/B
RANDOM
EDIT
PLAY IND.
■/CLEAR
PLL ADJ
TRK OFFSET
TRK GAIN
BC493
BC497

Note (1)

PC Board Ass'y	Designated Areas
ENN-371 G	Australia the U.K. Continental Europe Scandinavia
ENN-371 H	Germany Italy

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q701	2SB1187(E,F)	SILICON ROHM	
	Q702	2SC1740S(R,S)	SILICON ROHM	
	Q703	2SA934(Q,R)	SILICON ROHM	
	Q704	DTA144ES	SILICON ROHM	
	Q711	2SC535(B,C)	SILICON HITACHI	
	Q712	2SC1740S(R,S)	SILICON ROHM	
	Q713	2SA933S(R,S)	SILICON ROHM	
	Q721	2SD2144S(VW)	SILICON ROHM	
	Q731	2SD2144S(VW)	SILICON ROHM	
	Q733	2SC2060(Q,R)	SILICON ROHM	
	Q734	2SB1357(E,F)	SILICON ROHM	
	Q735	DTA144WS	SILICON ROHM	
	Q736	2SA933S(R,S)	SILICON ROHM	
	Q737	2SA933S(R,S)	SILICON ROHM	
	Q761	2SD2144S(VW)	SILICON ROHM	
	Q801	2SD2037(E,F)	SILICON ROHM	
	Q802	2SB1357(E,F)	SILICON ROHM	
	Q803	2SD2144S(VW)	SILICON ROHM	
	Q804	2SD2144S(VW)	SILICON ROHM	
	Q805	2SD2144S(VW)	SILICON ROHM	
	Q841	2SD2144S(VW)	SILICON ROHM	
	Q861	2SA933S(R,S)	SILICON ROHM	
	Q862	2SC1740S(R,S)	SILICON ROHM	
	Q863	2SC1740S(R,S)	SILICON ROHM	
	Q871	2SD2144S(VW)	SILICON ROHM	
	Q872	2SD2144S(VW)	SILICON ROHM	
	Q873	DTA144ES	SILICON ROHM	
	Q951	DTA114YS	SILICON ROHM	
	Q952	DTC114YS	SILICON ROHM	
	Q953	DTC114YS	SILICON ROHM	
	Q971	2SA934(Q,R)	SILICON ROHM	

⚠ : SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC761	STA341M(A)	I.C. SANKEN	
	IC762	M5218AL	I.C. MITSUBISHI	
	IC781	M5218AL	I.C. MITSUBISHI	
	IC801	NJM072S	I.C. DAINICHI	
	IC802	XRA10339	I.C. EXAR JAPAN	
	IC803	M5218AL	I.C. MITSUBISHI	
	IC841	YM7121C	I.C. YAMAHA	
	IC871	XRA15218	I.C. ROHM	
	IC873	MN35501	I.C. MATSUSHITA	
	IC951	HD404019RC11S	I.C. HITACHI	
	IC952	MN1281(P,Q)	I.C. MATSUSHITA	
	IC971	NJM2904S	I.C. DAINICHI	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D300	SLR-342MCA47	L.E.D. ROHM	
	D301	SLR-342MCA47	L.E.D. ROHM	
	D302	SLR-342MCA47	L.E.D. ROHM	
	D303	SLR-342MCA47	L.E.D. ROHM	
	D304	SLR-342VC3F	L.E.D. ROHM	
	D305	SLR-342VC3F	L.E.D. ROHM	
	D306	SPR-39MVWF	L.E.D. ROHM	
	D701	1SR139-200	SILICON ROHM	
	D703	MTZ5.6JB	ZENER ROHM	
	D791	1SS119	SILICON HITACHI	
	D951	1SS119	SILICON HITACHI	
	D952	1SS119	SILICON HITACHI	
	D971	MTZ2.4JB	ZENER ROHM	
	D972	1SS119	SILICON HITACHI	
	D991	SLR-342MCA47	L.E.D. ROHM	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C701	QETB1CM-108	1000MF 16V ELECTRO	
	C702	QETB1CM-108	1000MF 16V ELECTRO	
	C703	QETB1CM-227	220MF 16V ELECTRO	
	C704	QETB1CM-227	220MF 16V ELECTRO	
	C705	QETB1CM-476	47MF 16V ELECTRO	
	C706	QCF21HP-223	0.022MF 50V CERAMIC	
	C707	QETB0JM-227	220MF 6.3V ELECTRO	
	C708	QETB1AM-107	100MF 10V ELECTRO	
	C709	QCF21HP-223	0.022MF 50V CERAMIC	
	C710	QCF21HP-223	0.022MF 50V CERAMIC	
	C711	QFLB1HJ-472	4700PF 50V MYLAR	
	C712	QFLB1HJ-472	4700PF 50V MYLAR	
	C713	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C714	QCSB1HK-3R9	3.9PF 50V CERAMIC	
	C715	QCBB1HK-471	470PF 50V CERAMIC	
	C716	QETB1EM-106	10MF 25V ELECTRO	
	C717	QETB1CM-476	47MF 16V ELECTRO	
	C718	QCBB1HK-101	100PF 50V CERAMIC	
	C719	QFLB1HJ-183	0.018MF 50V MYLAR	
	C721	QCSB1HJ-470	47PF 50V CERAMIC	
	C723	QCZ0202-155	1.5MF 25V CERAMIC	
	C724	QFLB1HJ-563	0.056MF 50V MYLAR	
	C725	QFV81HJ-564	0.56MF 50V T.FILM	
	C726	QETB1EM-106	10MF 25V ELECTRO	
	C731	QFLB1HJ-183	0.018MF 50V MYLAR	
	C732	QCBB1HK-271	270PF 50V CERAMIC	
	C733	QFLB1HJ-393	0.039MF 50V MYLAR	
	C735	QFV81HJ-104	0.1MF 50V T.FILM	
	C736	QFV81HJ-224	0.22MF 50V T.FILM	
	C737	QFV81HJ-104	0.1MF 50V T.FILM	
	C738	QETB1CM-476	47MF 16V ELECTRO	
	C761	QEN51HM-225	2.2MF 50V NON POLE	
	C762	QETB1EM-226	22MF 25V ELECTRO	
	C763	QETB0JM-227	220MF 6.3V ELECTRO	
	C764	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C765	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C781	QFLB1HJ-272	2700PF 50V MYLAR	
	C782	QCBB1HK-101	100PF 50V CERAMIC	
	C783	QEN51HM-225	2.2MF 50V NON POLE	
	C784	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C785	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C791	QETB1HM-475	4.7MF 50V ELECTRO	
	C801	QCT26CH-151	150PF 50V CERAMIC	
	C802	QCT26CH-101	100PF 50V CERAMIC	
	C803	QFLB1HJ-223	0.022MF 50V MYLAR	
	C805	QCSB1HJ-470	47PF 50V CERAMIC	
	C806	QEN51HM-225	2.2MF 50V NON POLE	
	C807	QFLB1HJ-563	0.056MF 50V MYLAR	
	C808	QETB1CM-476	47MF 16V ELECTRO	
	C809	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C810	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C811	QCF21HP-223	0.022MF 50V CERAMIC	
	C812	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C813	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C841	QETB1AM-107	100MF 10V ELECTRO	
	C842	QFV81HJ-104	0.1MF 50V T.FILM	
	C843	QFV81HJ-104	0.1MF 50V T.FILM	
	C844	QETB1EM-106	10MF 25V ELECTRO	
	C845	QCBB1HK-101	100PF 50V CERAMIC	
	C846	QFV81HJ-105	1MF 50V T.FILM	
	C847	QFLB1HJ-182	1800PF 50V MYLAR	
	C848	QFV81HJ-224	0.22MF 50V T.FILM	
	C849	QETB1EM-106	10MF 25V ELECTRO	
	C850	QETB0JM-227	220MF 6.3V ELECTRO	
	C851	QFV81HJ-104	0.1MF 50V T.FILM	
	C852	QFV81HJ-104	0.1MF 50V T.FILM	
	C855	QFLB1HJ-473	0.047MF 50V MYLAR	
	C861	QCBB1HK-101	100PF 50V CERAMIC	
	C862	QETB1CM-107	100MF 16V ELECTRO	
	C863	QFLB1HJ-473	0.047MF 50V MYLAR	
	C864	QETB1EM-106	10MF 25V ELECTRO	
	C865	QETB1HM-105	1MF 50V ELECTRO	
	C873	QCT30CH-120	12PF 50V CERAMIC	
	C874	QCT30CH-3R9	3.9PF 50V CERAMIC	
	C875	QCZ0202-155	1.5MF 25V CERAMIC	
	C876	QCZ0202-155	1.5MF 25V CERAMIC	
	C877	QETB0JM-227	220MF 6.3V ELECTRO	
	C879	QCZ0202-155	1.5MF 25V CERAMIC	
	C880	QCZ0202-155	1.5MF 25V CERAMIC	
	C881	QETB0JM-477	470MF 6.3V ELECTRO	
	C882	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C887	QFLB1HJ-152	1500PF 50V MYLAR	
	C888	QFLB1HJ-152	1500PF 50V MYLAR	
	C889	QFLB1HJ-122	1200PF 50V MYLAR	
	C890	QFLB1HJ-122	1200PF 50V MYLAR	
	C891	QCS21HJ-121	120PF 50V CERAMIC	
	C892	QCS21HJ-121	120PF 50V CERAMIC	
	C893	EEZ2505-226	22MF ELECTRO	
	C894	EEZ2505-226	22MF ELECTRO	
	C895	QFLB1HJ-683	0.068MF 50V MYLAR	
	C896	QFLB1HJ-683	0.068MF 50V MYLAR	
	C897	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C898	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C899	QCY21HK-122	1200PF 50V CERAMIC	
	C907	QCVB1CM-103	0.01MF 16V CERAMIC	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C953	QETB1HM-475	4.7MF 50V ELECTRO	
	C954	QETB1HM-475	4.7MF 50V ELECTRO	
	C955	QETB1HM-226	22MF 50V ELECTRO	
	C957	QETB1AM-227	220MF 10V ELECTRO	
	C958	QCZ0202-155	1.5MF 25V CERAMIC	
	C971	QETB1CM-476	47MF 16V ELECTRO	
	C972	QFLB1HJ-103	0.01MF 50V MYLAR	
	C973	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C974	QETB1AM-107	100MF 10V ELECTRO	
	C975	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C976	QETB1HM-475	4.7MF 50V ELECTRO	
	C984	QCS21HJ-470	47PF 50V CERAMIC	H
	C987	QCZ0202-155	1.5MF 25V CERAMIC	
	C988	QCZ0202-155	1.5MF 25V CERAMIC	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R701	PTH61G25AR4R7M	FUSIBLE RE	SI
⚠	R702	PTH61G25AR4R7M	FUSIBLE RE	SI
⚠	R703	QRZ0077-100	10 1/4W FUSIBLE	
⚠	R704	QRZ0077-100	10 1/4W FUSIBLE	
	R705	QRD167J-472	4.7K 1/6W CARBON	
	R706	QRD167J-331	330 1/6W CARBON	
	R708	QRD167J-472	4.7K 1/6W CARBON	
	R709	QRD167J-122	1.2K 1/6W CARBON	
	R710	QRD167J-121	120 1/6W CARBON	
	R711	QRD167J-183	18K 1/6W CARBON	
	R712	QRD167J-432	4.3K 1/6W CARBON	
	R713	QRD167J-391	390 1/6W CARBON	
	R714	QRD161J-221	220 1/6W CARBON	
	R715	QRD167J-152	1.5K 1/6W CARBON	
	R716	QRD167J-561	560 1/6W CARBON	
	R717	QRD167J-431	430 1/6W CARBON	
	R718	QRD167J-512	5.1K 1/6W CARBON	
	R719	QRD167J-152	1.5K 1/6W CARBON	
	R720	QRD167J-271	270 1/6W CARBON	
	R721	QRD167J-471	470 1/6W CARBON	
	R722	QRD167J-682	6.8K 1/6W CARBON	
	R723	QRD167J-103	10K 1/6W CARBON	
	R726	QRD167J-102	1K 1/6W CARBON	
	R727	QRD167J-183	18K 1/6W CARBON	
	R731	QRD167J-104	100K 1/6W CARBON	
	R732	QRD167J-104	100K 1/6W CARBON	
	R733	QRD167J-394	390K 1/6W CARBON	
	R734	QRD167J-394	390K 1/6W CARBON	
	R735	QRD167J-121	120 1/6W CARBON	
	R736	QRD167J-182	1.8K 1/6W CARBON	
	R737	QRD167J-681	680 1/6W CARBON	
	R738	QRD167J-473	47K 1/6W CARBON	
	R739	QRD167J-331	330 1/6W CARBON	
	R740	QRD167J-183	18K 1/6W CARBON	
	R741	QRD167J-103	10K 1/6W CARBON	
	R742	QRD167J-104	100K 1/6W CARBON	
	R743	QRD167J-474	470K 1/6W CARBON	
	R744	QRD167J-562	5.6K 1/6W CARBON	
	R745	QRD167J-184	180K 1/6W CARBON	
	R746	QRD167J-183	18K 1/6W CARBON	
	R747	QRD167J-473	47K 1/6W CARBON	
	R748	QRD167J-471	470 1/6W CARBON	
	R749	QRD167J-105	1M 1/6W CARBON	
	R750	QRD167J-273	27K 1/6W CARBON	
	R751	QRD167J-394	390K 1/6W CARBON	
	R752	QRD167J-333	33K 1/6W CARBON	
	R753	QRD167J-394	390K 1/6W CARBON	
	R754	QRD167J-102	1K 1/6W CARBON	
	R755	QRD167J-105	1M 1/6W CARBON	
	R756	QRD161J-221	220 1/6W CARBON	
	R757	QRD167J-105	1M 1/6W CARBON	
	R758	QRD167J-105	1M 1/6W CARBON	
	R759	QRD167J-104	100K 1/6W CARBON	
	R760	QRD167J-332	3.3K 1/6W CARBON	
	R761	QRD167J-104	100K 1/6W CARBON	
	R762	QRD167J-682	6.8K 1/6W CARBON	
	R763	QRD167J-562	5.6K 1/6W CARBON	
	R764	QRD167J-183	18K 1/6W CARBON	
	R781	QRD167J-434	430K 1/6W CARBON	
	R782	QRD167J-274	270K 1/6W CARBON	
	R783	QRD167J-203	20K 1/6W CARBON	
	R784	QRD167J-224	220K 1/6W CARBON	
	R785	QRD167J-562	5.6K 1/6W CARBON	
	R786	QRD167J-392	3.9K 1/6W CARBON	
	R788	QRD167J-103	10K 1/6W CARBON	
	R789	QRD167J-102	1K 1/6W CARBON	
	R790	QRD167J-471	470 1/6W CARBON	
	R791	QRD167J-683	68K 1/6W CARBON	
	R792	QRD167J-183	18K 1/6W CARBON	
	R793	QRD167J-183	18K 1/6W CARBON	
	R794	QRD161J-221	220 1/6W CARBON	
	R796	QRD167J-472	4.7K 1/6W CARBON	
	R797	QRD167J-472	4.7K 1/6W CARBON	
	R798	QRD167J-472	4.7K 1/6W CARBON	
⚠	R800	QRZ0077-4R7	4.7 1/4W FUSIBLE	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R801	QRD167J-474	470K 1/6W CARBON	
	R802	QRD167J-474	470K 1/6W CARBON	
	R803	QRD167J-823	82K 1/6W CARBON	
	R804	QRD161J-221	220 1/6W CARBON	
	R805	QRD167J-683	68K 1/6W CARBON	
	R806	QRD167J-123	12K 1/6W CARBON	
	R807	QRD167J-152	1.5K 1/6W CARBON	
	R808	QRD167J-2R2	2.2 1/6W CARBON	
	R810	QRD167J-684	680K 1/6W CARBON	
	R811	QRD167J-513	51K 1/6W CARBON	
	R812	QRD167J-513	51K 1/6W CARBON	
	R813	QRD167J-683	68K 1/6W CARBON	
	R814	QRD167J-683	68K 1/6W CARBON	
	R815	QRD161J-221	220 1/6W CARBON	
	R821	QRD167J-563	56K 1/6W CARBON	
	R822	QRD167J-563	56K 1/6W CARBON	
	R823	QRD167J-394	390K 1/6W CARBON	
	R824	QRD167J-681	680 1/6W CARBON	
	R825	QVPA601-202A	2K VARIABLE	
	R826	QRD167J-122	1.2K 1/6W CARBON	
	R827	QRD167J-334	330K 1/6W CARBON	
	R828	QRD167J-512	5.1K 1/6W CARBON	
	R829	QVPA601-154A	150K VARIABLE	
	R830	QRD167J-223	22K 1/6W CARBON	
	R831	QRD167J-682	6.8K 1/6W CARBON	
	R832	QRD167J-103	10K 1/6W CARBON	
	R833	QRD167J-562	5.6K 1/6W CARBON	
	R834	QRD167J-562	5.6K 1/6W CARBON	
	R835	QRD167J-562	5.6K 1/6W CARBON	
	R836	QRD167J-562	5.6K 1/6W CARBON	
	R837	QRD167J-183	18K 1/6W CARBON	
	R839	QRD167J-103	10K 1/6W CARBON	
	R840	QRD167J-154	150K 1/6W CARBON	
	R841	QRD167J-103	10K 1/6W CARBON	
	R842	QRD167J-303	30K 1/6W CARBON	
	R843	QRD167J-434	430K 1/6W CARBON	
	R844	QRD167J-434	430K 1/6W CARBON	
	R845	QRD167J-103	10K 1/6W CARBON	
	R846	QRD167J-184	180K 1/6W CARBON	
	R847	QRD167J-104	100K 1/6W CARBON	
	R848	QRD167J-104	100K 1/6W CARBON	
	R849	QRD167J-681	680 1/6W CARBON	
	R850	QRD167J-183	18K 1/6W CARBON	
	R852	QRD167J-102	1K 1/6W CARBON	
	R853	QRD167J-562	5.6K 1/6W CARBON	
	R857	QRD161J-221	220 1/6W CARBON	
	R858	QRD167J-562	5.6K 1/6W CARBON	
	R859	QRD167J-183	18K 1/6W CARBON	
	R861	QRD167J-182	1.8K 1/6W CARBON	
	R862	QRD161J-221	220 1/6W CARBON	
	R863	QRD167J-184	180K 1/6W CARBON	
	R864	QRD167J-393	39K 1/6W CARBON	
	R865	QVPA601-104A	100K VARIABLE	
	R866	QRD167J-224	220K 1/6W CARBON	
	R867	QRD167J-182	1.8K 1/6W CARBON	
	R868	QRD167J-122	1.2K 1/6W CARBON	
	R869	QRD167J-822	8.2K 1/6W CARBON	
	R870	QRD167J-822	8.2K 1/6W CARBON	
	R871	QRD167J-821	820 1/6W CARBON	
	R872	QRD167J-182	1.8K 1/6W CARBON	
	R873	QRD167J-101	100 1/6W CARBON	
	R875	QRD167J-682	6.8K 1/6W CARBON	
	R876	QRD167J-682	6.8K 1/6W CARBON	
	R877	QRD167J-102	1K 1/6W CARBON	
	R879	QRD167J-102	1K 1/6W CARBON	
	R880	QRD167J-102	1K 1/6W CARBON	
	R881	QRD167J-103	10K 1/6W CARBON	
	R882	QRD167J-272	2.7K 1/6W CARBON	
	R883	QRD167J-102	1K 1/6W CARBON	
	R884	QRD167J-271	270 1/6W CARBON	
	R885	QRD167J-103	10K 1/6W CARBON	
	R886	QRD167J-562	5.6K 1/6W CARBON	
	R887	QRD167J-472	4.7K 1/6W CARBON	
	R888	QRD167J-822	8.2K 1/6W CARBON	
	R889	QRD167J-103	10K 1/6W CARBON	
	R891	QRD167J-561	560 1/6W CARBON	
	R892	QRD167J-561	560 1/6W CARBON	
	R893	QRD167J-561	560 1/6W CARBON	
	R894	QRD167J-561	560 1/6W CARBON	
	R895	QRD167J-560	56 1/6W CARBON	
	R896	QRD167J-560	56 1/6W CARBON	
	R897	QRD167J-101	100 1/6W CARBON	
	R898	QRD167J-561	560 1/6W CARBON	
	R899	QRD167J-271	270 1/6W CARBON	
	R900	QRD167J-330	33 1/6W CARBON	
	R901	QRD167J-105	1M 1/6W CARBON	
	R903	QRD167J-273	27K 1/6W CARBON	
	R904	QRD167J-273	27K 1/6W CARBON	
	R905	QRD167J-273	27K 1/6W CARBON	
	R906	QRD167J-273	27K 1/6W CARBON	
	R907	QRD167J-392	3.9K 1/6W CARBON	
	R908	QRD167J-392	3.9K 1/6W CARBON	
	R909	QRD167J-472	4.7K 1/6W CARBON	
	R910	QRD167J-472	4.7K 1/6W CARBON	
	R911	QRD167J-273	27K 1/6W CARBON	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R912	QRD167J-273	27K 1/6W CARBON	
	R913	QRD167J-561	560 1/6W CARBON	
	R914	QRD167J-561	560 1/6W CARBON	
	R915	QRD161J-221	220 1/6W CARBON	
	R916	QRD161J-221	220 1/6W CARBON	
	R917	QRD167J-183	18K 1/6W CARBON	
	R918	QRD167J-183	18K 1/6W CARBON	
	R941	QRD167J-182	1.8K 1/6W CARBON	
	R942	QRD167J-512	5.1K 1/6W CARBON	
	R943	QRD167J-181	180 1/6W CARBON	
	R944	QRD167J-682	6.8K 1/6W CARBON	
	R945	QRD167J-104	100K 1/6W CARBON	
	R946	QRD167J-104	100K 1/6W CARBON	
	R947	QRD167J-392	3.9K 1/6W CARBON	
	R948	QRD167J-392	3.9K 1/6W CARBON	
	R949	QRD167J-684	680K 1/6W CARBON	
	R950	QRD167J-154	150K 1/6W CARBON	
	R953	QRD167J-471	470 1/6W CARBON	
	R954	QRD167J-473	47K 1/6W CARBON	
	R955	QRD167J-103	10K 1/6W CARBON	
	R956	QRD167J-472	4.7K 1/6W CARBON	
	R957	QRD167J-105	1M 1/6W CARBON	
	R958	QRD167J-473	47K 1/6W CARBON	
	R959	QRD167J-472	4.7K 1/6W CARBON	
	R960	QRD167J-151	150 1/6W CARBON	
	R968	QRD167J-222	2.2K 1/6W CARBON	
	R971	QRD167J-220	22 1/6W CARBON	
	R972	QRD167J-220	22 1/6W CARBON	
	R973	QRD167J-102	1K 1/6W CARBON	
	R974	QRD167J-105	1M 1/6W CARBON	
	R975	QRD167J-331	330 1/6W CARBON	
	R976	QRD167J-183	18K 1/6W CARBON	
	R977	QRD167J-102	1K 1/6W CARBON	
	R978	QRD167J-103	10K 1/6W CARBON	
	R979	QRD167J-103	10K 1/6W CARBON	
	R980	QRD167J-104	100K 1/6W CARBON	
	R981	QRD167J-222	2.2K 1/6W CARBON	
	R982	QRD167J-910	91 1/6W CARBON	
	R986	QRD167J-103	10K 1/6W CARBON	
	R987	QRD167J-473	47K 1/6W CARBON	
	R988	QRD167J-102	1K 1/6W CARBON	
	RA951	QRB049J-102	1K 1/10W R.NETWORK	

⚠ : SAFETY PARTS

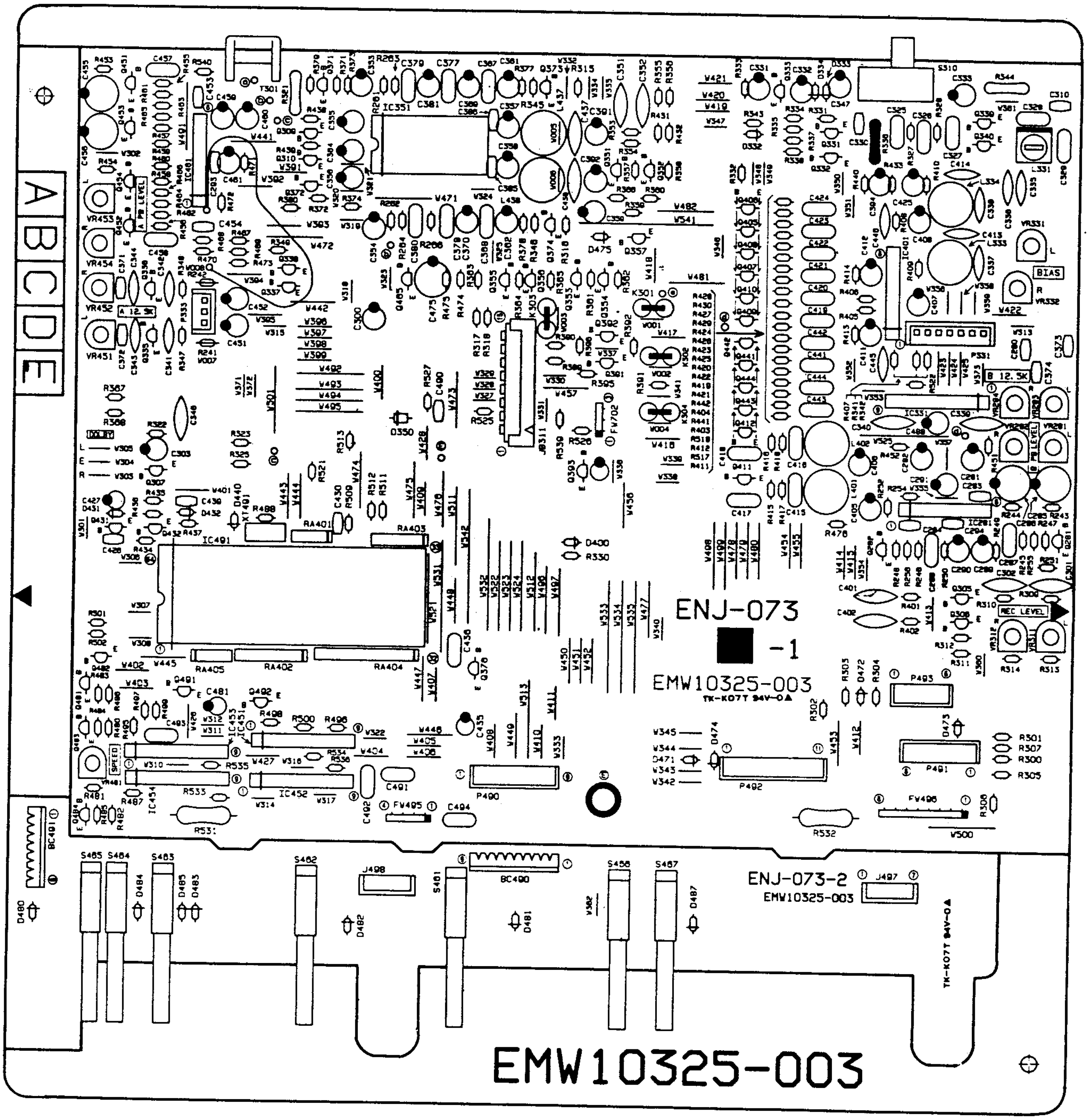
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E306805-075	FELT SPACER	
		E308432-001SM		
		E407620-001	SPACER	
	J701	EMV7141-013M	CONNECTOR 13PIN	
	P801	EMV7144-015	CONNECTOR 15PIN	
	P802	EMV5109-006A	PLUG ASSY 6PIN	
	P803	EMV5109-005A	PLUG ASSY 5PIN	
	P901	EMV7123-033	CONNECTOR 33PIN	
	P991	EMV7123-033R	CONNECTOR 33PIN	
	S300	ESP0001-023M	TACT SWITCH B.W PLAY (A Mecha)	
	S301	ESP0001-023M	TACT SWITCH REW (A Mecha)	
	S302	ESP0001-023M	TACT SWITCH FF (A Mecha)	
	S303	ESP0001-023M	TACT SWITCH F.W PLAY (A Mecha)	
	S310	ESP0001-023M	TACT SWITCH B.W PLAY (B Mecha)	
	S311	ESP0001-023M	TACT SWITCH REW (B Mecha)	
	S312	ESP0001-023M	TACT SWITCH FF (BMecha)	
	S313	ESP0001-023M	TACT SWITCH F.W PLAY (B Mecha)	
	S320	ESP0001-023M	TACT SWITCH STOP (A Mecha)	
	S321	ESP0001-023M	TACT SWITCH STOP (B Mecha)	
	S322	ESP0001-023M	TACT SWITCH REC.PAUSE (B Mecha)	
	S330	ESP0001-023M	TACT SWITCH HIGH SPEED DUBBING	
	S331	ESP0001-023M	TACT SWITCH DOLBY	
	S332	ESP0001-023M	TACT SWITCH REV.MODE	
	S333	ESP0001-023M	TACT SWITCH CD.REC	
	S981	ESP0001-023M	TACT SWITCH PROGRAM	
	S982	ESP0001-023M	TACT SWITCH PLAY/PAUSE	
	S983	ESP0001-023M	TACT SWITCH BACK.AUTO.SERH	
	S984	ESP0001-023M	TACT SWITCH REPEAT	
	S985	ESP0001-023M	TACT SWITCH RANDOM	
	S986	ESP0001-023M	TACT SWITCH OPEN/CLOSE	
	S987	ESP0001-023M	TACT SWITCH STOP/CLEAR	
	S988	ESP0001-023M	TACT SWITCH SIDE A/B	
	S989	ESP0001-023M	TACT SWITCH EDIT	
	S990	ESP0001-023M	TACT SWITCH FOW.AUTO SERCH	
	X841	ECX0169-344EA	RESONATOR	
	BC492	EWS32B-A930	SOCKET WIRE	
	BC493	EWS326-A920	SOCKET WIRE	
	CF951	ECX0004-194KM	RESONATOR	
	EP701	E70225-001	EARTH PLATE	
	FL991	ELU0001-151	FL TUBE	
	JT702	EMV7122-103	CONNECTOR	

⚠ : SAFETY PARTS

■ENJ-073 ☐ Deck PC Board Ass'y

Note : ENJ-073 ☐ varies according to the areas employed. See note (1) when placing an order.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TK-K07T 94V-0A
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REC LEVEL
PB LEVEL
SPEED
DOLBY

Note (1)

PC Board Ass'y	Designated Areas
ENJ-073 B	the U.K. Continental Europe Scandinavia
ENJ-073 C	Germany Italy
ENJ-073 D	Australia

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q281	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q282	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q305	2SD2144S(VW)	SILICON ROHM	
	Q306	2SD2144S(VW)	SILICON ROHM	
	Q307	2SC1740S(R,S)	SILICON ROHM	
	Q309	DTC144ES	SILICON ROHM	
	Q310	DTC144ES	SILICON ROHM	
	Q331	2SC1740S(R,S)	SILICON ROHM	
	Q332	2SC1740S(R,S)	SILICON ROHM	
	Q333	2SC1740S(R,S)	SILICON ROHM	
	Q335	DTC144ES	SILICON ROHM	
	Q336	DTC144ES	SILICON ROHM	
	Q337	DTC144ES	SILICON ROHM	
	Q338	DTC144ES	SILICON ROHM	
	Q339	2SC1740S(R,S)	SILICON ROHM	

⚠ : SAFETY PARTS

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q340	2SC1740S(R,S)	SILICON ROHM	
	Q351	2SC1740S(R,S)	SILICON ROHM	
	Q352	2SC1740S(R,S)	SILICON ROHM	
	Q353	2SC1740S(R,S)	SILICON ROHM	
	Q354	2SC1740S(R,S)	SILICON ROHM	
	Q355	2SC1740S(R,S)	SILICON ROHM	
	Q356	2SC1740S(R,S)	SILICON ROHM	
	Q357	2SC1740S(R,S)	SILICON ROHM	
	Q371	2SD2144S(VW)	SILICON ROHM	
	Q372	2SD2144S(VW)	SILICON ROHM	
	Q373	2SD2144S(VW)	SILICON ROHM	
	Q374	2SD2144S(VW)	SILICON ROHM	
	Q376	DTC144ES	SILICON ROHM	
	Q391	2SD2144S(VW)	SILICON ROHM	
	Q392	2SD2144S(VW)	SILICON ROHM	
	Q393	DTA144ES	SILICON ROHM	
	Q405	DTC144TS	SILICON ROHM	
	Q406	DTC144TS	SILICON ROHM	
	Q407	DTC144TS	SILICON ROHM	
	Q408	DTC144TS	SILICON ROHM	
	Q409	DTC144TS	SILICON ROHM	
	Q410	DTC144TS	SILICON ROHM	
	Q411	DTC144TS	SILICON ROHM	
	Q412	DTC144TS	SILICON ROHM	
	Q431	DTC114ES	SILICON ROHM	
	Q432	DTA114TS	SILICON ROHM	
	Q441	DTC144TS	SILICON ROHM	
	Q442	DTC144TS	SILICON ROHM	
	Q443	DTC144TS	SILICON ROHM	
	Q444	DTC144TS	SILICON ROHM	
	Q451	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q452	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q453	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q454	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q465	DTA114YS	SILICON ROHM	
	Q481	2SC1740S(R,S)	SILICON ROHM	
	Q482	2SC1740S(R,S)	SILICON ROHM	
	Q483	2SA933S(R,S)	SILICON ROHM	
	Q484	2SA933S(R,S)	SILICON ROHM	
	Q491	DTC144ES	SILICON ROHM	
	Q492	DTC144ES	SILICON ROHM	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D332	1SS119	SILICON HITACHI	
	D333	1SS119	SILICON HITACHI	
	D334	1SS119	SILICON HITACHI	
	D350	1SR139-200	SILICON ROHM	
	D400	1SS119	SILICON HITACHI	
	D431	1SS119	SILICON HITACHI	
	D432	MTZ3.9JB	ZENER ROHM	
	D440	1SS119	SILICON HITACHI	
	D471	1SS119	SILICON HITACHI	
	D472	1SS119	SILICON HITACHI	
	D473	1SS119	SILICON HITACHI	
	D474	1SS119	SILICON HITACHI	
	D475	1SS119	SILICON HITACHI	
	D480	1SS119	SILICON HITACHI	
	D481	1SS119	SILICON HITACHI	
	D482	1SS119	SILICON HITACHI	
	D483	1SS119	SILICON HITACHI	
	D484	1SS119	SILICON HITACHI	
	D485	1SS119	SILICON HITACHI	
	D487	1SS119	SILICON HITACHI	

⚠ : SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC281	UPC1228HA	I.C. NEC	
	IC331	UPC1330HA	I.C. NEC	
	IC351	AN7374K	I.C. MATSUSHITA	
	IC401	XRA15218N	I.C. EXAR JAPAN	
	IC451	TA8409S	I.C. TOSHIBA	
	IC452	TA8409S	I.C. TOSHIBA	
	IC453	TA8409S	I.C. TOSHIBA	
	IC454	TA8409S	I.C. TOSHIBA	
	IC461	UPC1228HA	I.C. NEC	
	IC491	HD614081SD53	I.C. HITACHI	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C280	QCVB1CM-103	0.01MF 16V CERAMIC	C
	C281	QEK51HM-225G	2.2MF 50V ELECTRO	
	C282	QEK51HM-225G	2.2MF 50V ELECTRO	
	C283	QCBB1HK-101	100PF 50V CERAMIC	B
	C283	QCBB1HK-471	470PF 50V CERAMIC	C
	C283	QCBB1HK-101	100PF 50V CERAMIC	D
	C284	QCBB1HK-101	100PF 50V CERAMIC	B
	C284	QCBB1HK-471	470PF 50V CERAMIC	C
	C284	QCBB1HK-101	100PF 50V CERAMIC	D
	C285	QETB1AM-107	100MF 10V ELECTRO	
	C286	QETB1AM-107	100MF 10V ELECTRO	
	C287	QFLB1HJ-822	8200PF 50V MYLAR	
	C288	QFLB1HJ-822	8200PF 50V MYLAR	
	C289	QER51HM-105G	1MF 50V ELECTRO	
	C290	QER51HM-105G	1MF 50V ELECTRO	
	C291	QEK51CM-107	100MF 16V ELECTRO	
	C293	QCHB1EZ-223	0.022MF 25V CERAMIC	C
	C294	QCHB1EZ-223	0.022MF 25V CERAMIC	C
	C301	QCY21HK-122	1200PF 50V CERAMIC	
	C302	QCY21HK-122	1200PF 50V CERAMIC	
	C303	QEK51HM-105G	1MF 50V ELECTRO	
	C310	QCBB1HK-471	470PF 50V CERAMIC	B
	C310	QCBB1HK-471	470PF 50V CERAMIC	C
	C325	QFLB1HJ-332	3300PF 50V MYLAR	
	C326	QFLB1HJ-332	3300PF 50V MYLAR	
	C327	QFLB1HJ-682	6800PF 50V MYLAR	
	C328	QFLB1HJ-183	0.018MF 50V MYLAR	
	C329	QFP81HG-562	5600PF 50V POLY	
	C330	QCHB1EZ-223	0.022MF 25V CERAMIC	C
	C331	QETB1HM-105	1MF 50V ELECTRO	
	C332	QETB1HM-105	1MF 50V ELECTRO	
	C333	QETB1EM-106	10MF 25V ELECTRO	
	C335	QCS21HJ-101	100PF 50V CERAMIC	
	C336	QCS21HJ-101	100PF 50V CERAMIC	
	C337	QCS21HJ-101	100PF 50V CERAMIC	
	C338	QCS21HJ-101	100PF 50V CERAMIC	
	C339	QCY21HK-152	1500PF 50V CERAMIC	
	C340	QCY21HK-152	1500PF 50V CERAMIC	
	C341	QCS21HJ-331	330PF 50V CERAMIC	
	C342	QCS21HJ-331	330PF 50V CERAMIC	
	C343	QCY21HK-122	1200PF 50V CERAMIC	
	C344	QCY21HK-122	1200PF 50V CERAMIC	
	C346	QCF21HP-223	0.022MF 50V CERAMIC	
	C347	QETB1CM-107	100MF 16V ELECTRO	
	C351	QCF21HP-473	0.047MF 50V CERAMIC	
	C352	QCF21HP-473	0.047MF 50V CERAMIC	
	C353	QETC1HM-105	1MF 50V ELECTRO	
	C354	QETC1HM-105	1MF 50V ELECTRO	
	C355	QEK51HM-105G	1MF 50V ELECTRO	
	C356	QEK51HM-105G	1MF 50V ELECTRO	
	C357	QETB1EM-106	10MF 25V ELECTRO	
	C358	QETB1EM-106	10MF 25V ELECTRO	
	C359	QEK51EM-106	10MF 25V ELECTRO	
	C361	QEK51HM-474G	0.47MF 50V ELECTRO	
	C362	QEK51HM-474G	0.47MF 50V ELECTRO	
	C364	QEK51CM-107	100MF 16V ELECTRO	
	C367	QFLB1HJ-152	1500PF 50V MYLAR	
	C368	QFLB1HJ-152	1500PF 50V MYLAR	
	C369	QEK51HM-474G	0.47MF 50V ELECTRO	
	C370	QEK51HM-474G	0.47MF 50V ELECTRO	
	C371	QCBB1HK-331	330PF 50V CERAMIC	
	C372	QCBB1HK-331	330PF 50V CERAMIC	
	C373	QCBB1HK-331	330PF 50V CERAMIC	
	C374	QCBB1HK-331	330PF 50V CERAMIC	
	C377	QFLB1HJ-152	1500PF 50V MYLAR	
	C378	QFLB1HJ-152	1500PF 50V MYLAR	
	C379	QFLB1HJ-272	2700PF 50V MYLAR	
	C380	QFLB1HJ-272	2700PF 50V MYLAR	
	C381	QETB1CM-226	22MF 16V ELECTRO	
	C383	QCBB1HK-101	100PF 50V CERAMIC	C
	C384	QCBB1HK-101	100PF 50V CERAMIC	C
	C385	QCBB1HK-101	100PF 50V CERAMIC	C
	C386	QCBB1HK-101	100PF 50V CERAMIC	C
	C391	QEK51EM-106	10MF 25V ELECTRO	
	C392	QEK51EM-106	10MF 25V ELECTRO	
	C394	QETB1CM-107	100MF 16V ELECTRO	
	C401	QCF21HP-473	0.047MF 50V CERAMIC	
	C402	QCF21HP-473	0.047MF 50V CERAMIC	
	C405	QETB1HM-225	2.2MF 50V ELECTRO	
	C406	QETB1HM-225	2.2MF 50V ELECTRO	
	C407	QER51HM-225G	2.2MF 50V ELECTRO	
	C408	QER51HM-225G	2.2MF 50V ELECTRO	
	C411	QER51EM-106	10MF 25V ELECTRO	
	C412	QER51EM-106	10MF 25V ELECTRO	
	C413	QCS21HJ-271	270PF 50V CERAMIC	
	C414	QCS21HJ-271	270PF 50V CERAMIC	
	C415	QFLB1HJ-822	8200PF 50V MYLAR	
	C416	QFLB1HJ-822	8200PF 50V MYLAR	
	C417	QFLB1HJ-562	5600PF 50V MYLAR	
	C418	QFLB1HJ-562	5600PF 50V MYLAR	
	C419	QFLB1HJ-123	0.012MF 50V MYLAR	
	C420	QFLB1HJ-123	0.012MF 50V MYLAR	
	C421	QFLB1HJ-102	1000PF 50V MYLAR	
	C422	QFLB1HJ-102	1000PF 50V MYLAR	
	C423	QFLB1HJ-103	0.01MF 50V MYLAR	
	C424	QFLB1HJ-103	0.01MF 50V MYLAR	
	C425	QETB1CM-107	100MF 16V ELECTRO	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C426	QCVB1CM-103	0.01MF 16V CERAMIC	
	C427	QEK51CM-226	22MF 16V ELECTRO	
	C430	QCGB1HK-102	1000PF 50V CERAMIC	
	C435	QETB1CM-476	47MF 16V ELECTRO	
	C436	QCZ0202-155	1.5MF 25V CERAMIC	
	C437	QCS21HJ-101	100PF 50V CERAMIC	
	C438	QCS21HJ-101	100PF 50V CERAMIC	
	C439	QCVB1CM-103	0.01MF 16V CERAMIC	
	C441	QFLB1HJ-123	0.012MF 50V MYLAR	
	C442	QFLB1HJ-123	0.012MF 50V MYLAR	
	C443	QFLB1HJ-103	0.01MF 50V MYLAR	
	C444	QFLB1HJ-103	0.01MF 50V MYLAR	
	C445	QCS21HJ-470	47PF 50V CERAMIC	
	C446	QCS21HJ-470	47PF 50V CERAMIC	
	C451	QEK51HM-225G	2.2MF 50V ELECTRO	
	C452	QEK51HM-225G	2.2MF 50V ELECTRO	
	C453	QCBB1HK-101	100PF 50V CERAMIC	B
	C453	QCBB1HK-471	470PF 50V CERAMIC	C
	C453	QCBB1HK-101	100PF 50V CERAMIC	D
	C454	QCBB1HK-101	100PF 50V CERAMIC	B
	C454	QCBB1HK-471	470PF 50V CERAMIC	C
	C454	QCBB1HK-101	100PF 50V CERAMIC	D
	C455	QETB1AM-107	100MF 10V ELECTRO	
	C456	QETB1AM-107	100MF 10V ELECTRO	
	C457	QFLB1HJ-822	8200PF 50V MYLAR	
	C458	QFLB1HJ-822	8200PF 50V MYLAR	
	C459	QEK51HM-105G	1MF 50V ELECTRO	
	C460	QEK51HM-105G	1MF 50V ELECTRO	
	C461	QETB1CM-107	100MF 16V ELECTRO	
	C475	QETB1AM-476	47MF 10V ELECTRO	
	C481	QETB1CM-107	100MF 16V ELECTRO	
	C488	QEK51CM-107	100MF 16V ELECTRO	
	C490	QCGB1HK-102	1000PF 50V CERAMIC	C
	C491	QFLB1HJ-104	0.1MF 50V MYLAR	
	C492	QFLB1HJ-104	0.1MF 50V MYLAR	
	C493	QFLB1HJ-104	0.1MF 50V MYLAR	
	C494	QFLB1HJ-104	0.1MF 50V MYLAR	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R241	QRD167J-470	47 1/6W CARBON	C
	R242	QRD167J-470	47 1/6W CARBON	C
	R243	QRD167J-470	47 1/6W CARBON	
	R244	QRD167J-470	47 1/6W CARBON	
	R245	QRD167J-334	330K 1/6W CARBON	
	R246	QRD167J-334	330K 1/6W CARBON	
	R247	QRD167J-562	5.6K 1/6W CARBON	
	R248	QRD167J-562	5.6K 1/6W CARBON	
	R249	QRD167J-682	6.8K 1/6W CARBON	
	R250	QRD167J-682	6.8K 1/6W CARBON	
	R251	QRD167J-105	1M 1/6W CARBON	
	R252	QRD167J-105	1M 1/6W CARBON	
	R254	QRD167J-471	470 1/6W CARBON	
	R255	QRD167J-272	2.7K 1/6W CARBON	
	R256	QRD167J-272	2.7K 1/6W CARBON	
	R261	QRD167J-102	1K 1/6W CARBON	
	R262	QRD167J-102	1K 1/6W CARBON	
	R263	QRD167J-562	5.6K 1/6W CARBON	
	R264	QRD167J-562	5.6K 1/6W CARBON	
	R266	QRD167J-223	22K 1/6W CARBON	
	R300	QRD167J-431	430 1/6W CARBON	
	R301	QRD167J-431	430 1/6W CARBON	
	R302	QRD167J-181	180 1/6W CARBON	
	R303	QRD167J-181	180 1/6W CARBON	
	R304	QRD167J-331	330 1/6W CARBON	
	R305	QRD167J-561	560 1/6W CARBON	
	R306	QRD167J-561	560 1/6W CARBON	
	R307	QRD167J-821	820 1/6W CARBON	
	R309	QRD167J-473	47K 1/6W CARBON	
	R310	QRD167J-473	47K 1/6W CARBON	
	R311	QRD167J-103	10K 1/6W CARBON	
	R312	QRD167J-103	10K 1/6W CARBON	
	R313	QRD167J-153	15K 1/6W CARBON	
	R314	QRD167J-153	15K 1/6W CARBON	
	R315	QRD167J-103	10K 1/6W CARBON	
	R316	QRD167J-103	10K 1/6W CARBON	
	R317	QRD167J-243	24K 1/6W CARBON	
	R318	QRD167J-243	24K 1/6W CARBON	
⚠	R321	QRZ0077-220	22 1/4W FUSIBLE	
	R322	QRD167J-913	91K 1/6W CARBON	
	R323	QRD167J-105	1M 1/6W CARBON	
	R325	QRD167J-104	100K 1/6W CARBON	
	R327	QRD167J-393	39K 1/6W CARBON	
	R328	QRD167J-393	39K 1/6W CARBON	
	R330	QRD167J-103	10K 1/6W CARBON	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R331	QRD167J-332	3.3K 1/6W CARBON	
	R332	QRD167J-332	3.3K 1/6W CARBON	
	R333	QRD167J-104	100K 1/6W CARBON	
	R334	QRD167J-821	820 1/6W CARBON	
	R335	QRD167J-821	820 1/6W CARBON	
⚠	R336	QRZ0077-100	10 1/4W FUSIBLE	
	R337	QRD167J-821	820 1/6W CARBON	
	R338	QRD167J-821	820 1/6W CARBON	
	R341	QRD167J-100	10 1/6W CARBON	
	R342	QRD167J-100	10 1/6W CARBON	
	R343	QRD167J-222	2.2K 1/6W CARBON	
⚠	R344	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	
	R345	QRD167J-562	5.6K 1/6W CARBON	
	R346	QRD167J-562	5.6K 1/6W CARBON	
	R347	QRD167J-224	220K 1/6W CARBON	
	R348	QRD167J-224	220K 1/6W CARBON	
	R349	QRD167J-223	22K 1/6W CARBON	
	R353	QRD167J-153	15K 1/6W CARBON	
	R354	QRD167J-153	15K 1/6W CARBON	
	R355	QRD167J-243	24K 1/6W CARBON	
	R356	QRD167J-243	24K 1/6W CARBON	
	R357	QRD167J-332	3.3K 1/6W CARBON	
	R358	QRD167J-332	3.3K 1/6W CARBON	
	R359	QRD167J-223	22K 1/6W CARBON	
	R360	QRD167J-223	22K 1/6W CARBON	
	R361	QRD167J-561	560 1/6W CARBON	
	R362	QRD167J-561	560 1/6W CARBON	
	R363	QRD167J-242	2.4K 1/6W CARBON	
	R364	QRD167J-242	2.4K 1/6W CARBON	
	R365	QRD167J-103	10K 1/6W CARBON	
	R366	QRD167J-105	1M 1/6W CARBON	
	R367	QRD167J-223	22K 1/6W CARBON	
	R368	QRD167J-223	22K 1/6W CARBON	
	R371	QRD167J-562	5.6K 1/6W CARBON	
	R372	QRD167J-562	5.6K 1/6W CARBON	
	R373	QRD167J-103	10K 1/6W CARBON	
	R374	QRD167J-103	10K 1/6W CARBON	
	R377	QRD167J-103	10K 1/6W CARBON	
	R378	QRD167J-103	10K 1/6W CARBON	
	R379	QRD167J-103	10K 1/6W CARBON	
	R380	QRD167J-103	10K 1/6W CARBON	
	R389	QRD161J-221	220 1/6W CARBON	
	R390	QRD161J-221	220 1/6W CARBON	
	R391	QRD167J-562	5.6K 1/6W CARBON	
	R392	QRD167J-562	5.6K 1/6W CARBON	
	R395	QRD167J-103	10K 1/6W CARBON	
	R396	QRD167J-103	10K 1/6W CARBON	
	R401	QRD167J-333	33K 1/6W CARBON	
	R402	QRD167J-333	33K 1/6W CARBON	
	R403	QRD167J-332	3.3K 1/6W CARBON	
	R404	QRD167J-332	3.3K 1/6W CARBON	
	R405	QRD167J-683	68K 1/6W CARBON	
	R406	QRD167J-683	68K 1/6W CARBON	
	R407	QRD167J-153	15K 1/6W CARBON	
	R408	QRD167J-153	15K 1/6W CARBON	
	R409	QRD167J-153	15K 1/6W CARBON	
	R410	QRD167J-153	15K 1/6W CARBON	
	R411	QRD167J-222	2.2K 1/6W CARBON	
	R412	QRD167J-222	2.2K 1/6W CARBON	
	R413	QRD167J-182	1.8K 1/6W CARBON	
	R414	QRD167J-182	1.8K 1/6W CARBON	
	R415	QRD161J-221	220 1/6W CARBON	
	R416	QRD161J-221	220 1/6W CARBON	
	R417	QRD161J-221	220 1/6W CARBON	
	R418	QRD161J-221	220 1/6W CARBON	
	R419	QRD167J-222	2.2K 1/6W CARBON	
	R420	QRD167J-222	2.2K 1/6W CARBON	
	R421	QRD167J-182	1.8K 1/6W CARBON	
	R422	QRD167J-182	1.8K 1/6W CARBON	
	R423	QRD167J-102	1K 1/6W CARBON	
	R424	QRD167J-102	1K 1/6W CARBON	
	R427	QRD167J-151	150 1/6W CARBON	
	R428	QRD167J-151	150 1/6W CARBON	
	R429	QRD167J-122	1.2K 1/6W CARBON	
	R430	QRD167J-122	1.2K 1/6W CARBON	
	R431	QRD167J-394	390K 1/6W CARBON	
	R432	QRD167J-394	390K 1/6W CARBON	
	R433	QRD161J-221	220 1/6W CARBON	
	R434	QRD167J-103	10K 1/6W CARBON	
	R435	QRD167J-223	22K 1/6W CARBON	
	R436	QRD167J-103	10K 1/6W CARBON	
	R437	QRD167J-102	1K 1/6W CARBON	
	R438	QRD167J-103	10K 1/6W CARBON	
	R439	QRD167J-103	10K 1/6W CARBON	
	R440	QRD161J-221	220 1/6W CARBON	
	R441	QRD167J-302	3K 1/6W CARBON	
	R442	QRD167J-302	3K 1/6W CARBON	
	R451	QRD167J-470	47 1/6W CARBON	C
	R452	QRD167J-470	47 1/6W CARBON	C
	R453	QRD167J-470	47 1/6W CARBON	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R454	QRD167J-470	47 1/6W CARBON	
	R455	QRD167J-334	330K 1/6W CARBON	
	R456	QRD167J-334	330K 1/6W CARBON	
	R457	QRD167J-362	3.6K 1/6W CARBON	
	R458	QRD167J-362	3.6K 1/6W CARBON	
	R459	QRD167J-222	2.2K 1/6W CARBON	
	R460	QRD167J-222	2.2K 1/6W CARBON	
	R461	QRD167J-332	3.3K 1/6W CARBON	
	R462	QRD167J-332	3.3K 1/6W CARBON	
	R463	QRD167J-682	6.8K 1/6W CARBON	
	R464	QRD167J-682	6.8K 1/6W CARBON	
	R465	QRD167J-223	22K 1/6W CARBON	
	R466	QRD167J-223	22K 1/6W CARBON	
	R467	QRD167J-105	1M 1/6W CARBON	
	R468	QRD167J-105	1M 1/6W CARBON	
	R469	QRD167J-105	1M 1/6W CARBON	
	R470	QRD167J-105	1M 1/6W CARBON	
	R471	QRD167J-471	470 1/6W CARBON	
	R472	QRD167J-472	4.7K 1/6W CARBON	
	R473	QRD167J-472	4.7K 1/6W CARBON	
	R474	QRD167J-274	270K 1/6W CARBON	
	R475	QRD167J-104	100K 1/6W CARBON	
	R476	QRD167J-472	4.7K 1/6W CARBON	
	R480	QRD167J-242	2.4K 1/6W CARBON	
	R481	QRD167J-153	15K 1/6W CARBON	
	R482	QRD167J-273	27K 1/6W CARBON	
	R483	QRD167J-184	180K 1/6W CARBON	
	R484	QRD167J-224	220K 1/6W CARBON	
	R485	QRD167J-683	68K 1/6W CARBON	
	R486	QRD167J-224	220K 1/6W CARBON	
	R487	QRD167J-224	220K 1/6W CARBON	
	R488	QRD167J-105	1M 1/6W CARBON	
	R495	QRD167J-123	12K 1/6W CARBON	
	R496	QRD167J-123	12K 1/6W CARBON	
	R497	QRD167J-682	6.8K 1/6W CARBON	
	R498	QRD167J-682	6.8K 1/6W CARBON	
	R499	QRD167J-563	56K 1/6W CARBON	
	R500	QRD167J-563	56K 1/6W CARBON	
	R501	QRD167J-103	10K 1/6W CARBON	
	R502	QRD167J-103	10K 1/6W CARBON	
	R509	QRD167J-103	10K 1/6W CARBON	
	R513	QRD161J-221	220 1/6W CARBON	
	R517	QRD167J-471	470 1/6W CARBON	
	R518	QRD167J-471	470 1/6W CARBON	
	R522	QRD161J-221	220 1/6W CARBON	
	R525	QRD161J-221	220 1/6W CARBON	
	R526	QRD161J-221	220 1/6W CARBON	
	R527	QRD167J-220	22 1/6W CARBON	C
⚠	R531	QRG022J-470A	47 2W O.M.FILM	
⚠	R532	QRG022J-470A	47 2W O.M.FILM	
	R533	QRD167J-163	16K 1/6W CARBON	
	R534	QRD167J-163	16K 1/6W CARBON	
	R535	QRD167J-183	18K 1/6W CARBON	
	R536	QRD167J-183	18K 1/6W CARBON	
	R539	QRD167J-472	4.7K 1/6W CARBON	
	R540	QRD167J-220	22 1/6W CARBON	B
	R540	QRD167J-220	22 1/6W CARBON	D
	RA401	QRB049J-103	10K 1/10W R.NETWORK	
	RA402	QRB089J-103	10K 1/10W R.NETWORK	
	VR281	QVPA601-201A	200 VARIABLE	
	VR282	QVPA601-201A	200 VARIABLE	
	VR283	QVPA601-104A	100K VARIABLE	
	VR284	QVPA601-104A	100K VARIABLE	
	VR311	QVPA601-503A	50K VARIABLE	
	VR312	QVPA601-503A	50K VARIABLE	
	VR331	QVPA601-503A	50K VARIABLE	
	VR332	QVPA601-503A	50K VARIABLE	
	VR451	QVPA601-104A	100K VARIABLE	
	VR452	QVPA601-104A	100K VARIABLE	
	VR453	QVPA601-201A	200 VARIABLE	
	VR454	QVPA601-201A	200 VARIABLE	
	VR481	QVPA601-103A	10K VARIABLE	

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	J497	VMC0234-P07	CONNECT TERMINAL**7PIN**	
	J498	VMC0234-P07	CONNECT TERMINAL**7PIN**	
	K302	ENZ8101-007	INDUCTOR	C
	K303	ENZ8101-007	INDUCTOR	C
	K304	ENZ8101-007	INDUCTOR	C
	L331	ENZ6002-012	OSCILLATOR COIL	
	L333	EQL2106-223	INDUCTOR	
	L334	EQL2106-223	INDUCTOR	
	L401	EQL2106-562	INDUCTOR	
	L402	EQL2106-562	INDUCTOR	
	L437	EQL2106-223	INDUCTOR	
	L438	EQL2106-223	INDUCTOR	
	P331	EMV5133-007K	PLUG ASSY**7PIN**	
	P333	EMV5133-003K	PLUG ASSY**3PIN**	
	P490	EMV5109-009A	PLUG ASSY**9PIN**	
	P491	EMV5109-008A	PLUG ASSY**8PIN**	
	P492	EMV5142-911	PLUG ASSY**11PIN**	
	P493	EMV5142-906	PLUG ASSY**6PIN**	
	S310	QSS7A12-E01	SLIDE SWITCH**FWD REC**	B
	S310	QSS7A12-E01	SLIDE SWITCH**METAL/TAPE**	C
	S461	ESB1100-007	LEAF SWITCH	
	S462	ESB1100-007	LEAF SWITCH	
	S463	ESB1100-007	LEAF SWITCH**B.Cro2**	
	S464	ESB1100-007	LEAF SWITCH**REV/REC**	
	S465	ESB1100-007	LEAF SWITCH**A Cro2**	
	S466	ESB1100-007	LEAF SWITCH	
	S467	ESB1100-007	LEAF SWITCH	
	T301	E70225-001	EARTH PLATE	
	BC490	EWS269-F413	SOCKET WIRE	
	BC491	EWS268-F413	SOCKET WIRE	
	FW495	EWR34B-16LST	FLAT WIRE**4PIN**	
	FW496	EWR38B-16LST	FLAT WIRE**8PIN**	
	FW702	EWR33B-20LST	FLAT WIRE**3PIN**	
	JB311	EMV7141-015	CONNECTOR**15PIN**	
	XT491	ECX0004-194KM	RESONATOR	

⚠ : SAFETY PARTS

—— MEMO ——